- c. Wells associated to each bond
- 3. Contacts
 - a. Company
 - b. Lease
 - c. Well
- 4. Lease
 - a. Lease responsible party history
 - b. Permits associated to lease (new)
 - i. Permit number
 - ii. Legacy permit number
 - iii. Authorized status
 - iv. Associate (move wells to a different production unit unitization, lease, production unit)
 - c. Wells associated to lease
 - i. API number
 - ii. Well type
 - iii. Well status
 - iv.Well status date
 - d. Oil/gas production associated to lease
 - i. Record
 - ii. Lease
 - iii. Company
 - iv. Month
 - v. Year
 - vi. Oil (bbl)
 - vii. Oil (\$/bbl)
 - viii. Gas (mcf)
 - ix. Gas (\$/mcf)
 - x. Water (bbl)
 - xi. API gravity
 - xii. Number of production wells (on lease)
 - xiii. Total number of active production wells (on lease)
 - xiv. Total number of inactive production wells (on lease)
 - e. Water disposal associated to lease
 - i. Month
 - ii. Year
 - iii. Disposal method
 - iv. Water type
 - v. Water (bbl)
 - vi. Associate (move wells to a different production unit unitization, lease, production unit)
- 5. Production

- a. Record
- b. Lease
- c. Company
- d. Month
- e. Year
- f. Oil (bbl)
- g. Oil (\$/bbl)
- h. Gas (mcf)
- i. Gas (\$/mcf)
- j. Water (bbl)
- k. API gravity
- I. Number of production wells (on lease)
- m. Total number of active production wells (on lease)
- n. Total number of inactive production wells (on lease)
- 6. Disposal
 - a. Company
 - b. Lease
 - c. Disposal Month
 - d. Disposal Year
 - e. Disposal method
 - f. Water type
 - g. Water (bbl)
- 7. Associate (move wells to a different production unit unitization, lease, production unit)
- 8. Permit
 - a. Permit number
 - b. Approved average daily pressure
 - c. Approved maximum daily pressure
 - d. Proposed depth
 - e. Required logs
 - f. Permit activity
 - g. Comments
 - h. Other various well and injection permit information
 - i. Wells associated with permit
- 9. Well
 - a. Well information
 - b. Status
 - c. Reconstruction
 - d. Well location
 - e. Well logs
 - f. Borehole and casing record
 - g. Perforation record

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| ı | 1. V | v Cı | ı sılılıdıatıdı | |

- i. Cement squeeze record
- j. Initial production
- k. History of responsible party
- I. Permits associated with well
- m. Inspections
 - i. Violations
 - ii. Enforcements
- n. MITs
- o. Injection
- 2. <u>How and who enters new information and/or updated well information into this system?</u>

Energy Resources Unit staff members (oil and gas/UIC 1422 program) enter data.

3. Typically how soon is the information added?

Within one or two days from receipt of information.

4. Are there other entities who have access rights for entering information into the system?

No.

5. <u>Does the system at this time allow for the inputting of directional information on horizontal wells, i.e. how many legs from the well pad, which direction and/or how many degrees, depth, etc.?</u>

No.

6. <u>Is the information contained in electronic data system available to the public and if so, how?</u>

Yes.

Missouri Geological Survey internet webpage

https://dnr.mo.gov/geology/geosrv/

GeoSTRAT

https://dnr.mo.gov/geology/geostrat.htm

- Oil and Gas in Missouri internet webpage https://dnr.mo.gov/geology/geosrv/oilandgas.htm
- Oil and Gas Permits Database

https://dnr.mo.gov/geology/geosrv/ogc/ogc-permits/

Downhole Stratigraphic and Geophysical Logs Database

https://dnr.mo.gov/geology/geosrv/ogc/oilandgaslogs.htm

GeoSTRAT

https://dnr.mo.gov/geology/geostrat.htm

- Data and Reports Section
- Oil and Gas Production (1928 08/09/18) Cumulative Data
- Oil and Gas Wells (updated 08/13/2018)
- Oil Production by Barrel and Value (2007 2017)
- Gas Production Data by Thousand Cubic Feet (MCF) and Value (2012 2015)

7. What progress or problems is the State having in the data entry area?

The O&G database application was built (coded) to specifications dictated by EPA to flow data to EPA HQ. Now that the node is no longer in use, the O&G database application design needs to be rebuilt (recoded) to meet the needs and usage of MGS. There is a significant amount of data captured and hierarchical coding that is no longer needed.

With use of the O&G database application, insight into additional data capture requirements, insignificant data currently captured, additional data currently uncaptured, inadequacy of cell designation descriptions, need for archival tables, need for toggles necessary for reporting, reorganization of some data cells, and other maintenance issues have become apparent.

Progress is slowly being made on maintenance and update needs to the O&G database application.

Q. Communication/Coordination:

1. <u>How does the State facilitate communication with other local, state, federal, or Non Governmental Organizations?</u>

- The state predominantly uses email to communicate with other local, state, federal, or Non-Governmental Organizations.
- EPA UIC/4 State meetings
- Groundwater Protection Council Annual Conference
- Groundwater Protection Council Annual Forum
- Email and USPS communications
- Oil and Gas Council meetings
- Site visits

R. Resources:

1. <u>Does the State foresee in the near future problems in meeting their current workplan goals and projections?</u>

At this time Missouri does not foresee problems in meeting the current goals and projections.

2. Are current funding levels for staff adequate for full UIC program implementation?

The current funding levels for staff are adequate to meet workplan goals and projections. Any funding increases would allow better implementation of field inspections and compliance and enforcement related activities.

3. How many field inspectors total does the State employ for UIC inspection activities?

For the 1425 UIC Program, Missouri employs one field inspector.

I. MDNR On-Site Reviewed Application and Inspection Examples

FILE # 1: 4/3/2013 Pomit # : 21320 · KANSAS RESONACES EXPLORATION : DEJECTIONET

NOTE: AROPOSED MAX RATE: PRESSURE DOT INCLUDED IN PUBLIC DOTICE (BASIED ON NOW PLES)

FILE # Z : JOHNSON, BYN REV TRS +73533 COLT ENGRGY, INC.

Permit #: 217-22822

DATE: 02/1/12.

FILE #3: RUDWING FORCES PETROCEUM

Permit #: 22850 DATE: 5/2/2017 NOTES: LOOKED GOOD

FILE 44: LACLEDE GAS COMPANY

PERMIT#: 20042 DATE: 7/7/71 NOTES LOOKED GOOD

FILE+5: SIB OPERATING LLC

PERMITH: 7/3/13 21193

DATE: 7/3/13 NOTES: LAONED GOOD

FILE #10: ALTAVISTA EMERGY, IAK

PERMIT#: 21438
DATE: 2117/12

MORES: LOOKED GOOD [NEW ALDRESS , THIS ISN'T MUNICATIVE OF CHERENT PRACTICES]

J. MDNR Program Evaluation On-Site Review Response to EPA

2019 MDNR Program Evaluation On-site Review.

Requested information:

- What MOU's or MOA's are being updated;
 - o There are no MOU's or MOA's currently being updated.
- A list or paragraph of UIC related accomplishments/highlights;
 - The following is a list of Missouri's notable UIC related accomplishments/highlights:
 - 1. Development of and enhancements to the new UIC database for Class II and Class V wells.
 - 2. Data review and entry of 6,630 additional UIC Class V (hazardous waste, heat pump, improved sinkhole, industrial drainage, mine backfill, septic system, storm water drainage, surface remediation) wells since 2015
 - 3. The addition of a UIC Class II well layer and Total Dissolved Solids (TDS) map layers to MDNR's online Geosciences Technical Resource Assessment Tool (GeoSTRAT).
 - The attachment of well-related down-hole logs and documents to all UIC Class II wells in GeoSTRAT layer.
 - 5. Increased dialog and cooperative efforts between Missouri UIC 1422 Program entities (Water Protection Program, Environmental Remediation Program, Waste Management Program, Well Installation Section, Department of Health and Senior Services, and 80 county health departments)
 - 6. Conducted an audit of UIC Class II financial assurance instruments and verification that financial assurance instruments are still active.
 - 7. Performed a comprehensive re-write of Missouri's oil and gas regulations effective February 29, 2016.
 - 8. Conducted a red-tape reduction affecting Missouri's oil and gas regulations which resulted in new oil and gas regulations effective February 28, 2019.
 - 9. Created completely new forms to suit the oil and gas regulations effective February 29, 2016, and updated forms as necessary to suit the new oil and gas regulations effective February 28, 2019.
 - 10. Staff attended various Groundwater Protection Conferences and Forums, EPA Region 7/Four State meetings, and training as resources allowed.
 - 11. Staff is a member of and actively participates in the National Technical Workgroup.

- Updated 1422 and 1425 organizational charts;
 - The updated Missouri UIC 1422 Program organizational chart is as follows:

Missouri Geological Survey:

Joe Gillman, Director and State Geologist

Amber Steele, Director - Geological Survey Program

Connie Edwards, Executive II; 1422 UIC Program financial assurance receiving, record maintenance, and auditing.

Sherri Stoner, Chief - Environmental Geology Section; UIC Program administration. Chris Vierrether, Geologist IV, Missouri UIC Program Coordinator;

1422 UIC Program coordination and management; 1422 UIC Program reporting to EPA; 1422 UIC Program well data acquisition, data management, well inventory collection and update, modifications to aquifer inventory, public awareness, data retrieval, and technical assistance and support.

Jeremiah Jackson, Chief - Environmental Assistance Unit; Supervise and coordinate geohydrologic site characterizations and assessments performed for UIC related projects.

Fletcher Bone, Geologist; Perform geohydrologic evaluations and document reviews for UIC related projects.

John Corley, Geologist; Perform geohydrologic evaluations and document reviews for UIC related projects.

Kirsten Schaefer, Geologist; Perform geohydrologic evaluations and document reviews for UIC related projects.

Molly Starkey, Geologist; Perform geohydrologic evaluations and document reviews for UIC related projects.

Brenna McDonald, Chief - Subsurface Investigations and Waste Management Unit; Supervise and coordinate geohydrologic site characterizations and assessments performed for UIC related hazardous waste projects.

Peter Bachle, Geologist; Perform geohydrologic evaluations and document reviews for UIC related hazardous waste projects.

Terry Hawkins, Geologist; Perform geohydrologic evaluations and document reviews for UIC related hazardous waste projects.

Kyle Rollins, Chief - Well Installation Section; Coordinate compliance and enforcement for 1422 UIC Program well construction and plugging of specific Class V well types (i.e., groundwater remediation wells, heat pump/air conditioning return flow wells, and abandoned water wells used for waste disposal).

Dan Nordwald, Technical Assistant IV; 1422 UIC Program field inspections. Justin Davis, Chief – Investigation and Remediation Unit; Ensure compliance for 1422 UIC Program well construction and plugging of specific Class V well types (i.e., groundwater remediation wells, heat pump/air conditioning return flow wells, and abandoned water wells used for waste disposal).

Andrew Combs, Environmental Specialist III; 1422 UIC Program heat pump record review.

Cathy Smith, Geologist II; 1422 UIC Program monitoring remediation well record review.

Michelle Oglesby, Environmental Specialist III; 1422 UIC Program enforcement. Karen Smith, Administrative Office Support Assistant; 1422 UIC Program well violation case coordinator and compliance assistance.

o The updated Missouri UIC 1425 Program organizational chart is as follows:

Missouri Geological Survey:

Joe Gillman, Director and State Geologist

Amber Steele, Director - Geological Survey Program

Connie Edwards, Executive II; 1425 UIC Program financial assurance receiving, data entry, record maintenance, and auditing.

Dolly Howard, Administrative Office Support Assistant; 1425 UIC Program data entry.

Sherri Stoner, Chief - Environmental Geology Section; UIC Program administration.

Chris Vierrether, Geologist IV, Missouri UIC Program Coordinator; 1425 UIC Program coordination and management; 1425 UIC Program reporting to EPA; 1425 UIC Program well data acquisition, data management, well inventory collection and update, modifications to aquifer inventory, public awareness, data retrieval, and technical assistance and support.

Kyle Rollins, Chief - Well Installation Section; Coordinates compliance and enforcement for well construction and plugging of 1425 UIC Program Class II wells.

Dan Nordwald, Technical Assistant IV; 1425 UIC Program field inspections.

Justin Davis, Chief - Investigation and Remediation Unit; Ensure compliance for well construction and plugging of 1425 UIC Program Class II wells.

Aaron Szapa, Oil and Gas Geologist; 1425 UIC Program document review and assessment, setting injection specifications, presenting alternative solutions for well construction and rule divergence issues, well permitting, compliance assistance, and witnessing well testing.

Michelle Oglesby, Environmental Specialist III; 1425 UIC Program enforcement. Karen Smith, Administrative Office Support Assistant; 1425 UIC Program well violation case coordinator and compliance assistance.

- 1422 regulatory changes, if any (Chris V. will send 1422 crosswalk to Jeff City);
 - Per correspondence with Ben Meissner (EPA R7), the UIC 1422 and 1425 crosswalks are currently being addressed and will be submitted at a later date.

- Confirmation of Class V well inventory numbers; and
 - Confirmation of the UIC 1422 Program well inventory numbers was sent to EPA R7 via email dated January 15, 2020 as follows:

Brent
Inserted in the table below, the figures in red are current values as of 1/15/2020.

| Well Type | Number ¹ | Number (as of 1/15/2020) |
|---|---------------------|-----------------------------|
| Abandoned Water Well Used For Disposal of Waste | 503 | 503 |
| Aquifer Recharge Well | 10 | 10 |
| Automobile Service Station Disposal | 43 | 42 |
| Heat Pump/Air Conditioning Return Flow | 274 | 257 |
| Improved Sinkhole | 1,004 | 1,003 |
| Industrial Drainage Well | 73 | 73 |
| Mine Backfill Well | 162 | 158 |
| Septic System Drainfield Disposal Method (mostly regulated by DHSS) | 4,736 | 4710 |
| Septic System Well Disposal Method | 11. | 11 |
| Storm Water Drainage Well | 7 | 7 |
| Subsurface environmental remediation | 3,862 | 3,856 |

As discussed in our phone conversation today, the discrepancy in the values reported with the comprehensive 1422 program review questionnaire submission and the values extracted from our database results from a combination of all of the following:

- 1. The values submitted with the 1422 program questionnaire were pulled from our database probably in April, two months before the submission of the questionnaire.
- 2. During April to June 2020, new records were being added to the database.
- 3. During April to June 2020, existing records were being edited to correct well type and well status information.
- 4. The values you used for comparison were obtained from our database in June 2019, which exhibits a lag time between the data submitted versus the data you pulled for comparison.

- Program evaluation questionnaire follow-up questions:
 - o 1425: Injection pressures, Q5 How frequently are these pressures reported to the State and how long is the monitoring report maintained by the owner/operator and the State?
 - a) If the owner/operator is compliant with the regulations, the frequency of the injection pressures reported to the state are annually per 10 CSR 50-2.080. If the owner/operator exceeds the maximum injection pressure, the reporting frequency may increase as deemed necessary as result in additional compliance monitoring per 10 CSR 50-2.055(9)(D).
 - b) The injection pressure monitoring report must be maintained by the owner/operator for a period of five years per 10 CSR 50-2.080(1)(B). The state must retain and make available the injection pressures for a period of at least five years per 10 CSR 50-2.080(4). State retention of injection documentation is permanent.
 - 1425: Seismicity, Q6 Does the State require or evaluate the need for the following measures pertaining to the help mitigate the potential for induced seismicity: Submission, at time of permit application, of any available information concerning the existence of known geological faults within a specified distance of the proposed well location, and submission of a plan for monitoring any seismic activity that may occur?
 - a) The state does evaluate the need for additional available information, including structural, upon reviewing a permit to drill, deepen, plug-back, or recomplete per 10 CSR 50-2.030(6)(C), and upon reviewing a permit to inject or modify an existing injection permit per 10 CSR 50-2.055(6)(C). Since injection historically has been at approximately 250 to 1,000 feet in depth which is far removed from the existing basement rock. No seismic activity monitoring plans have been required.
 - o 1425: Compliance, Q2 How long does/can this emergency authority to inject or dispose fluids at an alternate location last?
 - a) The emergency authority granted by the state geologist to inject or dispose fluids at an alternate location can last for a time period as deemed necessary by the state geologist, provided:
 - 1) The state geologist determines that injection into the alternate site does not pose a threat to the surface or subsurface environment per 10 CSR 50-2.055(6)(C); and
 - 2) The owner/operator of the injection well is making reasonable efforts and progress to resolve the issue(s) that created the emergency.

<u>Requested documents</u>: The following documents will be uploaded onto an MDNR exchange drive from where they may be retrieved. You will automatically receive an email notifying you files are available to download and will also contain the necessary instructions for document retrieval.

- 2000 MOU between the Water Protection Program and the Solid Waste Management Program;
- 2004 MOU between the Water Protection Program and the Hazardous Waste Program;
- Missouri's "Hydrogeologic Site Characterization" state guidance document or a weblink to the document; and
- Missouri's QMP for environmental data collection.

MDNR Program Evaluation On-Site Review Attendance List: 12/12/2019

Chief of Groundwater Drinks Water 913-55 Clean Water Compliance + Enf. 573-751-6725 Legal Counsel 573-526-646 Mary Mindrop Logour Cole Jose Reachly DNR Chief Operating point selve 573 526 1781 MONR WPP-MONK WMP_MONR En. Engineer 573-751-7969 Elnaz Siami Indomossa Geological Survey Progam Env. Geology Section Chief no vice Contraction Chief LAV. Geology Section And No. Amber Steele DNR-MGS Sherri Stoner 573-368-2131 DUR-MGS Chris Vierrother 573-568-23; BUR-MGS Druc-Audil Amanda Sittera 573-522-6857 Juliantfunt ProjeckHanager BNR-WMP (573)751-6796 DHSS-ONTP LORA CABLE 573-526-1466 ERIC FOXES DHSS-OWTP PROGRAM MANAGER 573-751-6095 Bobbie Pennington DNR-ERP UTCcoordinater 573-522-2093 Director 573-751-3176 DUR-ERP John Jurgensmeyer 913-551-7992 BEN MEISSNER U.S. EPA-REGION 7 R7 VIC STAFF Brent Campbell RA-WIC ST. A U.S. CPX-R7 913-551-7-889 913 - 551 - 7413 U.S. EPA - R7 R7 UIC STAPF KURT HILDEGRANDT MARY MINDRUP U.S. EPA- 27 913-551-7143 GAD BRANCH MANAGER

K. MDNR Comment Letter on EPA Review of UIC Program Comprehensive Review



May 12, 2020

Mr. Jeffrey Robichaud, Director Water Division United States Environmental Protection Agency Region 7 11201 Renner Boulevard Lenexa, KS 66219

Dear Mr. Robichaud:

On February 21, 2020, the Missouri Department of Natural Resources (Department), Division of Environmental Quality (DEQ), and Missouri Geological Survey (MGS) received a draft report of the U.S. Environmental Protection Agency (EPA) Region 7 evaluation of the Department's Underground Injection Control (UIC) program. The draft report compiles the results of the detailed review conducted on December 11 and 12, 2019, by EPA Region 7 staff.

Thank you for providing the Department an opportunity to comment on the draft report. Please find below our comments.

- 1. Page 1, Paragraph 4, Line 7: In addition to the Water Protection and Environmental Remediation Programs, the Department's Waste Management Program also assists in overseeing the 1422 program.
- 2. Page 2, Paragraph 3, Line 1: Class 1 wells are banned in Missouri. Enforcement of this prohibition is by DEQ.
- 3. Page 2, Paragraph 8, Line 3, and Page 3, Paragraph 1, Line 1: It states that MDNR and the MGS recently used Light Detection and Ranging (LiDAR) to identify improved sinkholes used for disposal purposes. This is a partially correct statement, in that LiDAR has been used to help identify sinkholes in the southern part of the state, however, not for the purpose of identifying sinkholes that are used as disposal wells. At this time, we are unable to differentiate between a sinkhole and an improved sinkhole using LiDAR. In addition, noting both MDNR and the MGS is redundant as MGS is a division within MDNR. For clarity, it is suggested to either solely reference MDNR or indicate MGS and the specific entities within the Department.
- 4. Page 3, Paragraph 5, Lines 2 and 3: The 2000 and 2004 Memorandums of Understanding listed have been superseded by the 2019 UIC Permits at Remediation Sites document.



Mr. Jeffrey Robichaud Page Two

- 5. Page 3, Paragraph 6, Lines 1 and 2: There are six regional offices, including the Central Field Operations (CFO). For accuracy, the CFO is housed in the Lewis and Clark State Office Building in Jefferson City with the Water Protection Program (WPP) and not in Rolla as stated. The CFO operates within a regional territory of nine counties in central Missouri, acting like a regional office.
- 6. Page 5, Paragraph 2, Lines 10 and 11: Missouri Oil and Gas regulations do not require monthly reporting of injection activities as stated. Only annual reporting of injection activities is required.
- 7. Page 7, Figure 3 titled "Class V Inventory vs. Inspections": The legend lists "Sum of Class 5" and "Sum of Class V Inspections." For clarity, it is suggested to revise the legend "Sum of Class 5" to "Sum of Class V" to maintain the consistency in the naming convention. Also, for clarity, it is suggested to use only a single term to identify Class V wells throughout the document.
- 8. Page 8, Paragraph 1: The paragraph does not appear to accurately capture the Department's processes. For clarity, perhaps the paragraph requires a re-write to more precisely convey the regulatory dynamics of the agencies. The Department offers its assistance with the re-write.
- 9. Page 8, Paragraph 3: The paragraph does not appear to accurately capture the Department's permitting processes as the different permit types and processes are comingled, thereby creating confusion. The Department offers its assistance with a re-write of this paragraph.
- 10. Page 8, Paragraph 3, Lines 5 and 6: For clarity, the completeness of the Class II permit applications are determined by the state geologist pursuant to 10 CSR 50-2.030(6). Staff from the MGS's Well Installation Section oversees regulations for Class II injection wells.
- 11. Page 8, Paragraph 3, Line 15: The statement implies that an operator has either 30 days to submit missing information or the 15 day review period will start again. To clarify, the operator must submit the missing information within 30 days and then the 15 day review period will begin.
- 12. Page 8, Paragraph 4, Line 1: It is unclear as to the type of injection well referenced in this statement. The statement is true for Class II injection wells, but appears inaccurate for Class V wells permitted by the Water Pollution Control Branch (WPCB). The WPCB would modify the permit rather than terminating the existing permit and issuing a new permit. The Department offers its assistance with a re-write if needed.
- 13. Page 8, Paragraph 4, Line 2: It is unclear as to the type of injection well referenced in this statement. The statement is true for Class II injection wells, but appears inaccurate for Class V wells permitted by the Department's WPCB. The Department offers its assistance with a re-write to better capture the agency's program-specific applications.
- 14. Page 9, Paragraph 3, Lines 2, 3 and 4: There is no exemption of the 165 feet rule per 10 CSR 50-2.090(2). Fluid disposal wells cannot be placed closer than 165 feet from the property boundary.

- 15. Page 10, Paragraph 1, Line 1: For clarity, it is suggested replacing "Water permits within WPP" with "Missouri State Operating Permits (MSOP) issued by the WPCB" to make the distinction between drinking water permits and clean water permits.
- 16. Page 10, Paragraph 1, Line 5: For clarity, it is suggested replacing WPP with WPCB to maintain the consistent distinction between drinking water and clean water.
- 17. Page 10, Paragraph 1, Line 8: The term "response time" is unclear whether it refers to the time it takes the Department to issue a permit after pubic notices of proposed decisions or the time it takes the Department to receive comments.
- 18. Page 15, Paragraph 5, Line 1: For clarity, although WPP is likely to be the most visible to permittees, compliance assistance is also provided by MGS, the Department's Waste Management and Environmental Remediation Programs, and the Missouri Department of Health and Senior Services.
- 19. Page 16, Paragraph 2, Lines 8 through 11: These sentences do not appear to accurately express the WPCB's inspection process. The WPP offers the following suggestion to re-write these lines. "Class V inspections conducted within the WPP are periodic and are solely focused on compliance with the MSOP and the Missouri Clean Water Law and its implementing regulations. WPCB inspectors are not versed in the Safe Drinking Water Act and are not expected to evaluate compliance with UIC regulations. WPCB inspectors are trained to evaluate compliance with the MSOP conditions and the Missouri Clean Water Law and its implementing regulations." If this suggested re-write is not acceptable, the Department offers its assistance as needed.
- 20. Page 16, Paragraph 6: The paragraph does not appear to accurately capture Missouri's UIC enforcement process. For clarity, perhaps the paragraph requires a re-write to more precisely convey Missouri's enforcement process. The WPP offers the following suggestion to re-write this paragraph: "Enforcement is handled differently throughout the various agencies and programs comprising Missouri's UIC program. Typically, unresolved violations are managed through a process of compliance assistance and enforcement escalation. The compliance assistance process typically begins with informational actions such as letters of warning to promote voluntary compliance. Enforcement action may escalate to notices of violation that require specific corrective actions. If compliance is not attained through these actions, the enforcement process typically further escalates to formal actions such as administrative orders to compel compliance or civil litigation. Formal enforcement actions, both administrative and civil, may include penalties." If this suggested re-write is not acceptable, the Department offers its assistance as needed.
- 21. Page 18, Figure 7, The Significant Non-Compliance Violations by Type: 2015 2019 graph: The graph indicates twenty (20) injection pressure violations for Class V wells have occurred. However, no Class V wells from 2015 to 2019 have received a significant noncompliance violation for injection pressure violations.

Mr. Jeffrey Robichaud Page Four

22. Page 18, Paragraph 2, Lines 1, 2 and 3: The MGS utilizes an internal UIC Oil & Gas database to track and catalog information. The information is then used for EPA reporting requirements. Only MGS staff enters and updates information in the database.

If you have any questions, please contact Christopher Vierrether, Missouri Underground Injection Control Coordinator of the Department's Missouri Geological Survey at P.O. 250, Rolla, MO 65402, by email at chris.vierrether@dnr.mo.gov, or by telephone at 573-368-2370.

Sincerely,

MISSOURI GEOLOGICAL SURVEY

Christopher Vierrether, RG Missouri Underground Injection Control Coordinator

c: Joe Gillman, Director, Missouri Geological Survey Ed Galbraith, Director, Division of Environmental Quality

| L. | MDNR | Additional | Corresp | ondence | and R | esponse |
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M. MDNR Organizational Structure

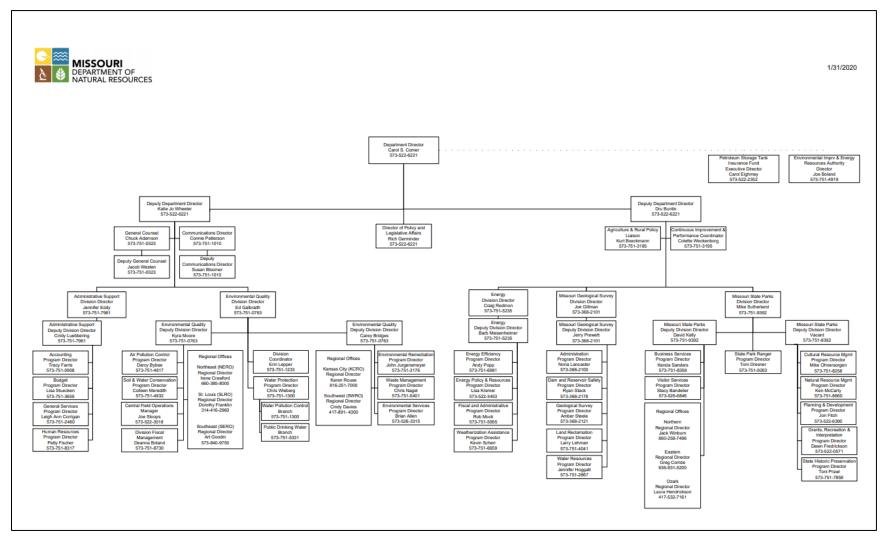


Figure 1 MDNR Organizational Chart as of 01/31/2020

N. MDNR Forms

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MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM

OIL AND GAS ANNUAL INJECTION WELL MONITORING REPORT

NOTE: This report must be submitted for each injection well listed on the Oil and Gas Annual Well Inventory Report.

| NELL IDENTIFICATION INFORMATION | | | | | | | | | | |
|---------------------------------|--|--|---------------------------------------|-----------------------------|------------------|--|--|--|--|--|
| NAME OF COMPANY | AME OF COMPANY, ORGANIZATION, OR INDIVIDUAL THAT DRILLS, MAINTAINS, OPERATES, OR CONTROLS INJECTION WELLS IN MISSOURI OPERATOR LICENSE NUMBER | | | | | | | | | |
| PRODUCTION UNIT | COUCTION UNIT (LEASE OR SURFACE UNIT NAME) API NUMBER WELL NUMBER | | | | | | | | | |
| MONTHLY W | ELL INFORMATION (RECORD | D INJECTION RATE AND INJECTION I | PRESSURE AT LEAST MONTHLY | WITH THE RESULTS SUB | MITTED ANNUALLY) | | | | | |
| Month | Maximum daily injection rate (bpd, gpm) | Maximum wellhead injection pressure (psig) | Barrels per month of injected fluid | Remarks | | | | | | |
| January | | | | | | | | | | |
| February | | | | | | | | | | |
| March | | | | | | | | | | |
| April | | | | | | | | | | |
| Мау | | | | | | | | | | |
| June | | | | | | | | | | |
| July | | | | | | | | | | |
| August | | | | | | | | | | |
| September | | | | | | | | | | |
| October | | | | | | | | | | |
| November | | | | | | | | | | |
| December | | | | | | | | | | |
| MO 780-0208 (2-18) | | SEND COMPLETED FORM, BY MARCH 1, TO: MISSO | OURS DEPARTMENT OF NATURAL RESOURCES, | MISSOURI GEOLOGICAL SURVEY, | | | | | | |

Form 1: 780-0208

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MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS COMMERCIAL OPERATOR'S LICENSE

APPLICATION

| OR OFFICE USE ONLY | | | | | | |
|-----------------------|----------------|--|--|--|--|--|
| ROCESED BY | DATE RECEIVED | | | | | |
| CHECK NUMBER | CHECK AMOUNT | | | | | |
| ICENSED CALENDAR YEAR | LICENSE NUMBER | | | | | |

| APPLICATION TYPE | | | | | | | | |
|---|--|---|---|--|-----------------|--|-------|----------|
| New Renewal Infor | New ☐ Renewal ☐ Information Update Only (Certificate of registration and fee not required) | | | | | | | |
| BUSINESS INFORMATION | | | | | | | | |
| NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL THAT DRILLS, MAINTAINS, OPERATES, OR CONTROLS OIL AND GAS WELLS IN OPERATOR LICENSE NUMBER (IF RENEWAL OR UPDATE) | | | | | | | | |
| MAILING ADDRESS | | COUNTY | | CITY | | | STATE | ZIP |
| PHYSICAL ADDRESS (IF DIFFERENT THAN ABOVE) PRIMARY PHONE NUMBER WITH AREA CODE | | | | | | | | |
| IF A NAME CHANGE OR REORGANIZATION, GIVE NAME | OF PREVIOUS ORGANIZATION | ON | | | | | | |
| OFFICER INFORMATION - PRINCIPAL | OFFICER(S) OR P | ARTNERS | | | | | | |
| Name | Title | Primary Ph Area Code | one Number | with | Ema | il Address | i | |
| | | | | EXT. | | | | |
| | | | | EXT. | | | | |
| | | | | ext. | | | | |
| CORRESPONDENCE CONTACT INFOR | MATION (IF DIFFE | RENT THAN | ABOVE) | | | | | |
| Name | Title | | Primary Phone Number with Em Area Code | | | il Address | i | |
| PRIMARY | | | | EXT. | | | | |
| SECONDARY | | | | EXT. | | | | |
| OTHER | | | | EXT. | | | | |
| METHOD OF PAYMENT | | | | | | | | |
| ☐ Check or Money Order (Please enclose che ☐ Credit Card (Transaction fee applies.) (Plea ☐ Automated Clearing House (Please attach | eck, payable to Departr ase attach contact infor contact information of p | ment of Natural mation of perso person authoriz | Resources, won authorized ed to make tra | vith submitte to make trar ansaction.) | ed for nsact | m.) lon.) | AN | \$250.00 |
| CERTIFICATION | | | | | | | | |
| I, the undersigned, certify that: I am authorized by said business to make this report. The facts stated herein are true, correct and complete to the best of my knowledge. I understand that after any change occurs as to facts stated in this report as submitted and filed, a supplementary report shall be filed with the state geologist with respect to such change within thirty (30) calendar days after the effective date of change. I have read and am in agreement that this business will comply with the statutes, rules and provisions pursuant to Chapter 259, RSMo, and the Missouri Code of State Regulations Oil and Gas Council Rules 10 CSR 50. | | | | | | | | |
| PRINT NAME | | PRINT CO | OMPANY NAME | | | | | |
| SIGNATURE | | • | | | | DATE | | |
| FOR OFFICE USE ONLY | | | | | | | | |
| APPROVED BY | | | | | | DATE | | |
| THE THE PARTY IS AN ADDRESS OF THE PARTY IS NOT THE PARTY IN | AT MAIN HAWKI AND LINES. | A RESERVED BY | ALC: A MAD. BRIDE TO THE | ALC: UNKNOWN | - | THE RESERVE AND ADDRESS OF THE PERSON. | | |

LETED FORM ALONG WITH \$250 LICENSE FEE BY JANUARY 1 TO: MISSOURI DEPARTMENT OF NATURAL R MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PD 60X 258, ROLLA, MO 65462 PHONE: 573-368-2100 FAX: 573-368-211 EMAIL: cilandpa@dr.mo.gov.

Form 2: <u>780-0209</u>

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| à | \$ |

MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM

| FOR OFFICE USE ONLY | | | | | |
|---------------------|---------------|--|--|--|--|
| PROCESSED BY | DATE RECEIVED | | | | |
| CHECK NUMBER | CHECK AMOUNT | | | | |

| STATUS APPLICATION | | | | | | | | | |
|---|--------------------|---------------|----------------------------|-----------|----------------------|---------------|---------------|---------------------|--|
| STATUS APPLICATION | | | | CHE | ECK NUMBER | | CHECK AMO | UNT | |
| WELL OWNER INFORM | ATION | | | | | | 1 | | |
| NAME OF COMPANY, ORGANIZATION | | THAT DRILLO A | ANDTAING AGEDATES AS AN | AUTON 9 | OII AND GAS WELLS | ODERATOR | HACKNEE MIT | HOED | |
| MISSOURI | ON, OR INDIVIDUAL | MAT DRILLS, I | MAINTAINS, OPERATES, ON CO | MIROLS | OIL AND GAS WELLS I | NOPERATOR | LICENSE NUI | MBER | |
| WELL INFORMATION | | | | | | | | | |
| PRODUCTION UNIT (LEASE OR SUI | RFACE UNIT NAME) | WELL NUME | BER | API NUM | MBER | TOTAL DEP | тн | GROUND ELEVATION | |
| | | | | | | | FT. | FI | |
| WELL USE (SELECT ONE) | | | LOCATION OF WELLS (NAD | 083, DECI | MAL DEGREES) | | | | |
| ☐ Production Well ☐ Of ☐ Injection Well | ther well Usag | e | Latitude | | Longi | tude | | | |
| SPUD DATE | COMPLETION DAT | E | LAST DATE WELL WAS ACT | TIVE | | EVER BEEN 8 | SHUT-IN? IF Y | ES, MOST RECENT DAT | |
| | | | | | □ No □ Yes Wi | hon | | | |
| DATE LAST MIT PERFORMED ON T | HIS WELL (AN MIT M | AY BE REQUIR | ED BEFORE APPROVAL.) | | REQUIRED SIGNAGE | | IS REQUIRED | SIGNAGE INSTALLED | |
| | | | | | OR EACHWELL Yes No | | FOR TANK B | ATTERY | |
| WELL CONSTRUCTION | | | | ļL. | Tes LINO | | III IES I | □ INO | |
| TYPE OF WELL COMPLETION | Open | Holo Inton | val Information | | | | | | |
| Open Hole | | Hole Top | Open Hole Bottom | God | ologia Ctrotum N | ama lura | Microuri N | lamanalatura\ | |
| | Open | noie rop | Open Hole Bottom | Get | ologic Stratum N | ame (use | MISSOURI | vomendature) | |
| Defeated Corine | Df- | -C 1-E | | | | | | | |
| Perforated Casing | | ration Infor | | - | | | | | |
| | Perto | ration Top | Perforation Bottom | Geo | ologic Stratum N | ame (use | MISSOUTIN | Nomenclature) | |
| | <u> </u> | | | _ | | | | | |
| | | | | | | | | | |
| SHUT-IN SPECIFICATIO | NS . | | | | | | | | |
| Proposed shut-in period (| up to one year |) Start D | ate | | End Date | | | | |
| REASON FOR EXTENDED SHUT-IN | STATUS | | | | | | | | |
| | | | | | | | | | |
| EXTENDED SHUT-IN PLAN (ATTACK WHILE IN EXTENDED SHUT-IN STA | H A WRITTEN PLAN | OR EACH LEA | SE WHICH DESCRIBES HOW Y | OU PROP | OSE TO OPERATE, MO | NITOR OR WI | NTERIZE THE | LEASE AND WELLS | |
| WHILE IN EXTENDED SHOT-IN STA | 103) | | | | | | | | |
| | | | | | | | | | |
| METHOD OF PAYMENT | | | | | | | I | | |
| ☐ Check or Money Order (F☐ Credit Card (Transaction | | | | | | | TOTAL AMO | | |
| Automated Clearing House | | | | | | | | \$25 | |
| CERTIFICATION | | | | | | | | | |
| I, the undersigned, certify that | at: | | | | | | | | |
| I am authorized to act as the | well owner's ag | | | | | | | | |
| The information on this appli I understand this extension, I | | | | | plete to the best of | my knowi | | | |
| I understand that this extensi | ion must be rene | wed before | the expiration date in ord | | mply with shut-in v | vell requirer | nents set fo | orth in the Miss | |
| Code of State Regulations O | II and Gas Coun | | | | | | | | |
| NAME (PRINT) | 1 | TITLE | | COMPANY | | | | | |
| | | | | | | | | | |
| PRIMARY PHONE NUMBER WITH A | REA CODE | ľ | EMAIL ADDRESS | | | | | | |
| SIGNATURE | | | | | | DATE | | | |
| | | | | | | | | | |
| FOR OFFICE USE ONLY | 1 | | | | | | | | |
| Approved shut-in period | Start Date | | | E- | d Date | | | | |
| APPROVED BY | orant Date | | | En | u Date | DATE | | | |
| | | | | | | | | | |

MO 780-0210 (9-18) SEND COMPLETED FORM ALONG WITH \$25 FEE (PER WELL) TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 250, ROLLA, MO 65402-0250 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: ollandosm@dn.mo.gox

Form 3: <u>780-0210</u>

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MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS PERMIT TO DRILL OR MODIFY

| FOR OFFICE USE ONLY | DATE RECEIVED |
|---------------------|---------------|
| CHECK NUMBER | CHECK AMOUNT |
| PROCESSED BY | PERMIT NUMBER |

| <u>ra (⊕)</u> WELL | APPLICA' | TION | | PR | PROCESSED BY PERMIT NUMBER | | | | | |
|---|-------------------------|-----------------|---------------------------|--|----------------------------|-----------------|-----------------|---------------------|------------------------|--|
| PERMIT INFORMAT | ION | | | | _ ' | | | | | |
| NAME OF COMPANY, ORGAN | | VIDUAL THAT D | RILLS, MAINTAI | NS, OPERATES, O | OR CONTRO | LS OIL | AND GAS WEI | LLS IN MISSOURI | OPERATOR LI | CENSE NUMBER |
| | | | | | | | | | | |
| IS THIS IS A MULTIPLE-COMP | LETED WELL | | | | | | PERMIT | TYPE | | |
| □ No □ Yes (multiple- | | are subject to | conditions of 1 | 10 CSR 50-2.04 | 0(5)) | | ☐ Indiv | idual well permit | Blanket | well permit |
| PERMIT INTENT (SELECT ON New well construction | E) Deepen we | ell Plug- | back well | Recomplete v | well 🗆 | Change | use of well | Other (ex | plain in comm | nents box below) |
| WELL INFORMATION | | | | | | | | | | |
| PROPOSED WELL USE (SELE | ECT ONE) | | | | | | | | | |
| Production Well: | OII | | Commercial of | as | □ No | n-com | nercial gas | _ c | calbed methar | ne |
| Injection Well: Enhanced oil recovery Disposal of formation fluids Cyclic steam stimulation Other (explain in comments box below) | | | | | | | | | | |
| | Stratigraphic tes | t 🗆 | Observation 1 | or | | | | 🗆 🗆 🔿 | | comments box below) |
| WELL ORIENTATION (SELECT Vertical Well Pr | T ONE) roposed depth | | FT | r. Plug back | death | | | _FT. | (UNPLU | R OF ABANDONED GGED) WELLS ON LEASE |
| | | _ | | _ | - | | | | | |
| | leasured vertical | | FT | | i borehole i | | | FT. | | |
| PRODUCTION UNIT (LEASE ON NAME) | OR SURFACE UNIT | | IIC STRATUM N CLATURE) | AME (USE MISSO | URI | WELL | NUMBER | GROUND ELEVA | TION API NUN WELL O | MBER (FOR EXISTING NLY) |
| | | | | | | | | l | FT. | |
| BOND INFORMATIO | N | , | | | | _ | | ' | *** | |
| BOND TYPE Single w | | ☐ Blanket w | el bond | 6 | OND STATE | IS | ☐ On file | ☐ Attach | ed | |
| PROPOSED NEW W | | | | | | | | | | |
| PLANNED SPUD DATE | PROPOSED DRI | | | NOTIODING | ar ECII | ICAI | IONO | | | |
| POWNEDSFOODKIE | Coring C | | COMMENTS | | | | | | | |
| Casing/Tubing Type | Setting Depth | Diameter | Weight/Foot | Packer Depth | Full Lengt | h Ceme | ent (If no, exp | plain alternative p | proposed met | hod) |
| | | | | | ☐ Yes ☐ | No | | | | |
| | | | | | ☐ Yes ☐ | T No | | | | |
| | | | | | | | | | | |
| | | | | . | Yes [| No | | | | |
| | | | | J | Yes [| No | | | | |
| REQUIRED INFORM | IATION FOR | SUBMISS | ION | | | | | | | |
| If this permit is approved, y indicated below. For new w | | | | | | | | | and additions | i requirements as |
| METHOD OF PAYM | ENT | | | | | | | | | |
| Check or Money Order | | | | | | | | | | AMOUNT DUE |
| ☐ Credit Card (Transaction ☐ Automated Clearing Ho | | | | | | | | | | \$100 |
| | use (Flease aua | ch contact mio | imation of pers | on authorized it | o make tran | Sacion | 1.) | | | \$100 |
| CERTIFICATION | | | | | | | | | | |
| I, the undersigned, certify to I am authorized to act | | the applicant | of this wall | | | | | | | |
| The information on the | | | | s true, correct ar | nd complete | e to the | best of my l | tnowledge. | | |
| I understand this per | | | | | | | | | | |
| I understand the subr I understand the subr | | | | | sterable. | | | | | |
| I understand this app | ication will beco | me null and vo | id if no respon | se has been rec | | | | otification reques | sting required | missing or incomplete |
| Information, at which I understand addition | | | | | | | | | | |
| I understand this per | | | | | | OI UNS | permit. | | | |
| I agree to abide by Cl | hapter 259, RSM | lo, and the Mis | souri Code of | State Regulation | ns Oll and G | | | | | |
| I understand this per | nit, in no way, re | lieves me of m | y obligations to | o comply with all | | federa OMPAN | | ocal laws or regu | lations. | |
| NAME (PRINT) | | | IIILE | | ľ | OMPAN | • | | | |
| PRIMARY PHONE NUMBER W | WITH AREA CODE | | EMAIL ADDRES | 98 | | | | | | |
| SIGNATURE | | | | | | | | | DATE | |
| FOR OFFICE USE ONLY | | | | | | | | | | |
| ADDITIONAL REQUIREMENTS | | | | | | | | | | |
| ☐ None ☐ Cuttings on f | ive foot interval | □ Core □ | Water sample | (s) depth: | | | | _ Other_ | | |
| APPROVED BY | | | | | | | APPROVAL D | ATE | PERMIT E | XPIRATION DATE |

MO 780-0211 (S-18) SEND COMPLETED FORM ALONG WITH \$100 APPLICATION FEE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 250, ROLLA, MO 85402 PHONE: 573-388-2100 FAX: 573-388-2111 EMAIL: plandgm@dr.mo.gov.

Form 4: <u>780-0211</u>

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| g | (4) |

MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS PERMIT TO INJECT OR INJECTION PERMIT MODIFICATION

| OR OFFICE USE ONLY | DATE RECEIVED |
|--------------------|---------------|
| HECK NUMBER | CHECK AMOUNT |
| ROCESSED BY | PERMIT NUMBER |

| APP | LICATION | | | T NOCESSED BY | | PERMIT HOMBER | | | | | |
|--|---|---|---|---|--|---|--|--|--|--|--|
| WELL OWNER IN | IFORMATION | | | ' | | • | | | | | |
| NAME OF COMPANY, OR | GANIZATION, OR INDIVIDUAL | THAT DRIL | LS, MAINTAINS, OPERATES, | OR CONTROLS OIL AND G | AS WELLS IN MISSO | OURI OPERATOR LICENSE NUMBER | | | | | |
| | | | | | | | | | | | |
| PERMIT INTENT (SELECT | ONE) | IF MODIFI | CATION, CHECK ALL THAT A | PPLY | | | | | | | |
| ☐ New request | | ☐ Incre | ase pressure 🗌 Increa | ise rate 🗌 Increase v | rate 🗌 Increase volume 🔲 Change/add Injection zone | | | | | | |
| ☐ Modification to ex | isting injection permit | ☐ Add/ | delete disposed fluid so | ource (no fee required) | Other | | | | | | |
| WELL INFORMAT | | | | | | | | | | | |
| PRODUCTION UNIT (LEAR | SE OR SURFACE UNIT NAME |) | VELL NUMBER | | API NUMBER | | | | | | |
| TYPE OF INJECT | ION | | | | | | | | | | |
| CHOOSE ONE | | | | | | | | | | | |
| | d water | | | | | | | | | | |
| | SSURE CALCULATION | | • | | | | | | | | |
| the perforations or inject For steam or other gas | tion interval. For example, injection – wellhead injection | a wellhead on pressun | Injection pressure of 375 es may be approved at 3.0 | psig may be approved for psig/ft, based on the dep | r a 500 ft. deep inje oth to the mid-point | ft. based on the depth to the mid-point of ection interval using the default method. of the perforations or injection interval. injection interval x 3.0 psig/ft.) | | | | | |
| Alternative method for of injection pressure cal include step-rate test do | determining injection pressu iculation must be used. Sup | ire. If an in oporting do ressure, le | jection pressure is reques cumentation detailing the ak-off test data, limit test d | ted that is greater than th method of calculation mu | e calculated defaul st be submitted wit | t injection pressure, an alternative method in this form. Alternative methods may ent data that quantifies the integrity of the | | | | | |
| Step-rate test | Leak-off test Limit test | Pump | pressure/well fracture dat | a Formation breakdo | wn pressure 🗌 Ot | her | | | | | |
| | CTION INFORMATION | | | | | | | | | | |
| MAXIMUM WELLHEAD INJECTION PRESSURE | AVERAGE WELLHEAD INJECTION PRESSURE | MAXIMUM | DAILY INJECTION RATE (SE | LECT UNITS) | AVERAGE DAILY IN | JECTION RATE (SELECT UNITS) | | | | | |
| PSIC | Fold | | | BPD ☐ GPM ☐ SCFM | | BPD GPM SCFM | | | | | |
| ESTIMATED FORMATION | FRACTURE PRESSURE | | | ESTIMATED FRACTURE P | RESSURE GRADIEN | | | | | | |
| | | PSIG | | J | | PSIGIFT | | | | | |
| INJECTION FLUI | | | | | | | | | | | |
| Additional chemical a representative chara | analyses of the injected cteristics of the injection | fluid may 1 fluid ove | be required for this inj Ir time. | ection well as part of t | he approval proc | ess or to yield data that establishes | | | | | |
| SOURCE AND ADDITIVES | OF FLUID | | | | TO | OTAL DISSOLVED SOLIDS | | | | | |
| | | | | | | PPM | | | | | |
| COMPATIBILITY WITH RE | CEIVING STRATUM/STRATA | | | | | | | | | | |
| INJECTION ZONE | INFORMATION | | | | | | | | | | |
| | analyses of the injection | | | | well as part of the | he approval process or to yield data | | | | | |
| GEOLOGIC NAME (MISSO | | | | PTION OF INJECTION ZONE | E | | | | | | |
| | | | | | | | | | | | |
| STRATA DEPTH (UPPER | CONTACT/LOWER CONTACT | | STRATA THICKNESS | | то | OTAL DISSOLVED SOLIDS | | | | | |
| PERFORATION/OPEN-HO | E INTERVALIEN | FT. | | FT. | | PPM | | | | | |
| / | FT. | | / FT. | , | FT. | | | | | | |
| UPPER CONFINI | NG ZONE INFORMA | TION | , | | | 71. | | | | | |
| GEOLOGIC NAME (MISSO | | 11014 | LITHOLOGIC DESCRI | PTION OF INJECTION ZONE | E | | | | | | |
| | | | | | | | | | | | |
| STRATA DEPTH (UPPER | CONTACT/LOWER CONTACT |) | | SATURATED HYDRAULIC CONDUCTIVITY | | | | | | | |
| | | FT. | | | | CWSEC | | | | | |
| | NG ZONE INFORMA | ATION | I TO LOS ONO DECONO | | - | | | | | | |
| GEOLOGIC NAME (MISSO | AURI NOMENGLATURE) | | LITHOLOGIC DESCR | PTION OF INJECTION ZON | - | | | | | | |
| STRATA DEPTH (UPPER | CONTACT/LOWER CONTACT |) | • | SATURATED HYDRAULIC | CONDUCTIVITY | | | | | | |
| MO 780-0212 (03-18) | | | | | | CM/SEC ES, MISSOURI GEOLOGICAL SURVEY, | | | | | |
| PAGE 1 of 3 | GEOLOGIC RESOURCE | ES SECTIO | N, PO BOX 250, ROLLA, MO | 65402 PHONE: 573-368-2 | 100 FAX: 573-368-21 | 11 EMAIL: oilendges@dnr.mo.gov | | | | | |

Form 5: <u>780-0212</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS ANNUAL WELL INVENTORY REPORT

| WELL OWNER IN | FORMATION | | | | | | | | | | |
|---|---|--|--|---|--|--|--|--|--|--|--|
| NAME OF COMPANY, ORG | ANIZATION, OR INDIVID | DUAL THAT DRILLS, MAINTAINS, | OPERATES, OR CONTROLS OIL AND GAS WELLS IN | MISSOURI OPERATOR LICENSE NUMBER | | | | | | | |
| ANNUAL WELL IN | IVENTORY (AS | OF DECEMBER 31) | | • | | | | | | | |
| Shut-in well is Incomplete we report has not | s a well that has not ell is a well under c t been submitted. | been operated within the onstruction, within one hu | d use within the last ninety (90) calendar day last ninety (90) calendar days and has been ndred twenty (120) calendar days after the s intended use and has not been shut-in, conv | n approved for shut-in status. Spud date and for which a well completion | | | | | | | |
| API Number | Well Number | Production Unit (lease or surface unit name) | Well Type (provide usage description observation well(s) on line provided (temperature, pressure, etc.) | for "Well Status (select one) | | | | | | | |
| | | | OII Gas Other Injection Observation for | Active Shut-in Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other Injection Observation for | Active Shut-in Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other | Active Shut-In Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other | Active Shut-In Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other | Active Shut-in | | | | | | | |
| | | | OII Gas Other | Active Shut-in Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other | ☐ Active ☐ Shut-In ☐ Incomplete ☐ Abandoned | | | | | | | |
| | | | OII Gas Other | Active Shut-in Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other Injection Observation for | Active Shut-in Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other Injection Observation for | Active Shut-In Incomplete Abandoned | | | | | | | |
| | | | □ OII □ Gas □ Other □ □ Injection □ Observation for □ | Active Shut-in Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other Injection Observation for | Active Shut-in Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other | Active Shut-in Incomplete Abandoned | | | | | | | |
| | | | OII Gas Other | Active Shut-in | | | | | | | |
| | | | OII Gas Other | Active Shut-In | | | | | | | |
| | | | Oll Gas Other Injection Observation for | Active Shut-in Incomplete Abandoned | | | | | | | |
| CERTIFICATION | | | III COOCIVATION III | | | | | | | | |
| I, the undersigned, ce I am author | rized to act as an a | gent for this company. | and is true, correct and complete to the best | of my knowledge | | | | | | | |
| PRINT NAME | ason on silo idili li | TITLE | COMPANY | or my anotherage. | | | | | | | |
| PRIMARY TELEPHONE NU | MBER WITH AREA COD | E EMAIL AD | EMAIL ADDRESS | | | | | | | | |
| SIGNATURE | | | | DATE | | | | | | | |

MO 780-0213 (11-18) SEND COMPLETED FORM ALONG WITH REQUESTED INFORMATION PRIOR TO JANUARY 31 TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 290, ROLLA, MO 65402
PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: cilandoss@der.mo.gov

Form 6: <u>780-0213</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS NOTICE OF INTENTION TO PLUG

NOTE: A detailed plugging proposal and electronic/geophysical logs must be on file or submitted with this form.

| WELL OWNER INFORMA | | | | | | | | | | | |
|---|----------|------------------------------|--------------|-----------------------|------------|-----------|---------------|---------|---------|----------------------------|----------|
| NAME OF COMPANY, ORGANIZATIO | N, OR IN | DIVIDUAL THAT DRILL | S, MAINTAINS | S, OPERATES, OR CONT | ROLS OIL A | ND GAS W | ELLS IN MISSO | URI OPI | ERATOR | LICENSE NUMBER | |
| MAILING ADDRESS | | | | | YTK | | | STA | ATE | ZIP CODE | |
| PRIMARY CONTACT NAME | | TITLE | | PRIMARY PHONE N | UMBER WIT | TH AREA | EMAIL ADDRE | 88 | | | |
| WELL INFORMATION (L | ATITU | DE AND LONG | ITUDE M | UST BE NAD83 / | AND AS | DECIM | AL DEGRE | E TO | THE F | IFTH DECIMA | AL) |
| COUNTY | | EGAL DESCRIPTION Sec. Twp | . N | Rng. | E 🗆 W | LATITUDE | | | LONGIT | UTDE | |
| PRODUCTION UNIT (LEASE OR SUR | | | | WELL NUMBER | | WELL PER | RMIT NUMBER | | API NUI | WBER | |
| APPLICATION TO DRILL THIS WELL | WAS FILE | ED IN NAME OF | | | | | | | G | ROUND ELEVATION | N FT. |
| WELL USE (SELECT ONE) Production Well: Oli | | Co | ommercial g | gas | □ Non-co | ommerci | al gas | □ Coa | albed m | nethane | |
| Injection Well: Enh | anced o | oll recovery 🗆 Dk | sposal of fo | ormation fluids | Cyclic | steam s | timulation | ☐ Oth | er (exp | olain in commen | ts box) |
| Other Well Usage: Stra | | ctest Ot | servation t | for | | | | □ Oth | er (exp | olain in commen | ts box) |
| WELL ORIENTATION (SELECT ONE) Vertical Well Well | depth | | | FT. | | | | | | | |
| ☐ Horizontal Well Meas | sured ve | ertical depth | | FT. Hor | zontal bo | rehole le | ngth | | F | т. | |
| PROPOSED WELL PLUG | GING | INFORMATION | 1 | | | | | | | | |
| Proposed plugging method: | □ Dro | ccure amut DT | romio 🗆 | Graulty feed. 🗆 Of | hor | | | | P | PROPOSED DATE P | LUGGED |
| Lithologic Information | | soure grout. 🔲 II | ienie 🔲 | Glavity leedO | | | | | —L | | |
| Name of each stratum/strata | | Stratum/strata | Fluid co | ontent of each stratu | m/strata | Depth | interval of | Type, o | depth a | and length of plu | g |
| containing oil or gas | | open to well bore | | | | each s | tratum/strata | propos | ed and | amount of ud/other used | |
| | | Yes No | | | | | | | | | |
| | | Yes No | | | | | | | | | |
| | | Yes No | | | | | | | | | |
| | | Yes No | | | | | | | | | |
| Well Construction Informa | tion | | • | | | | | | | | |
| Casing Diameter | Casing | Set Depth | Top of I | Perforation Interval | Bottom o | f Perfor | ation Interva | Packer | r, Shoe | s, Bridge Plugs | Depth |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Bridge Plug | | . = - : | | | | | | - | | | |
| Installed Yes No | ☐ Per | manent 🗌 Retri | evable | Plug Material | | | | Depth | Set | | FT. |
| | | | | | | | | | | | |

MO 780-0214 (03-18) SEND COMPLETED FORM ALONG WITH PLUGGING PROPOSAL, NO LATER THAN FIVE (8) BUSINESS DAYS BEFORE PROPOSED PLUGGING DATE, TO:
MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGI

Form 7: <u>780-0214</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM
OIL AND GAS WELL COMPLETION OR
RECOMPLETION REPORT AND WELL LOG

| WELL OV | VNEF | RINFO | ORMA | TION | | | | | | | | | | | | | | | |
|----------------------------|---|---------|--------------|------------|---------|----------------------------|-----------|-------------|-----------------------|-----------------------------------|--------|--------------|--------|-------------|---------------------------------|-------------------|------------------------------------|---|--|
| NAME OF COR IN MISSOURI | MPANY | ORGAN | IZATION | , OR INDIV | DUAL TI | HAT DRILLS | , MAINTAI | NS, OPERA | ATES, | OR CONT | ROLS | OIL A | ND GA | SWELLS | | OPERATOR LICEN | SE | | |
| | REPORT FOR (SELECT ONE) | | | | | | | | | | | | | | | | | | |
| | □ New well construction □ Recompletion/Modification to existing well Explain: | | | | | | | | | | | | | | | | | | |
| WELL INF | | | | | | | | | | | | | | | | | | | |
| PRODUCTION NAME) | UNIT (| LEASE C | OR SURF | ACE UNIT | NOMEN | GIC STRATI (CLATURE) | UM NAME | (USE MISS | OURI | WELL | UMBER | • | PER | MIT NUMBE | R | API NUMBER | | GROUND ELEVATION FT. | |
| WELL USE (SE | | | | | | | | | | • | | | | | | • | | | |
| Production | | | OII | | | | mmercia | - | | | | | | lal gas | | Coalbed met | | | |
| Injection W | | | | | | | • | | n flui | ds _ | Cycli | c ste | sam s | timulation | | Other (explai | | | |
| Other Well | | | | | st | Ob | servation | 1 for | | | | | | | | Other (explai | n In | comments box) | |
| NO Y | | | | | s are s | ubject to | conditio | ns of 10 | CSR | 50-2.04 | 10(5)) | | | | | | | | |
| WELL ORIENT | | (SELEC | | | TAL WEL | L, ATTACH | DIRECTIO | NAL SURV | ÆY) | | | | | | | | | | |
| □ Vertical | Well | | Total | depth | | _ | | | ft. | Plu | g back | k dep | oth | | | ft. | | | |
| ☐ Horizon | | ell . | Meas | ured ver | icai de | | | | ft. | | Izonta | il bor | rehole | elength | | ft. | | | |
| LOCATION OF | WELL | | | | | LAND | GRANT | 0 | OUNT | Y | | | | | | | | fty feet (50') from the map per 10 CSR 50- | |
| Sec | Twp. | | N Rng | [|] E 🗌 | w | | | | | | | | | (3)(C)) | | | apper to cont so | |
| LOCATION OF | VERT | CAL WE | LL (NAD | 83, DECIMA | L DEGR | EES) | | | | LOCATIO | NOFH | ORIZ | ONTAL | WELL TER | MINUS | (NAD83, DECIMAL D | DEGR | (EES) | |
| Lattude | | | | Lon | gitude | | | | | Latitude | | | | | L | Longitude | | | |
| DATE SPUDDE | ED | D | ATE TO | AL DEPTH | REACHE | DATEC | OMPLETE | D READY T | O PRO | ODUCE O | RINJEC | ст с | URRE | NT STATUS | OF W | ELL | | | |
| | | | | | | | | | | | | | | tive 🗌 S | Shvut-Ir | n (complete) | S | nut-in (incomplete | |
| PRODUCTION | OR IN. | ECTION | STRAT | UM FOR TH | IS COMF | LETION OR | RECOMP | LETION (U | ISE MI | SSOURI N | OMEN | CLAT | URE) | | | | | | |
| TYPE OF ELEC | CTRIC | OR OTH | ER LOG | RAN | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | .og(s) on file | | Log(s) attached | |
| WELL AN | D W | ELLH | EAD (| CONSTR | RUCTI | ON | | | | | | | | | | | | | |
| Type of W | ell C | omple | tion | Per | forated | casing | | pen hole | . 0 | pen ho | le dep | oth In | nterva | d: from | | FT. to | | FT. | |
| Casing Inf | | tion | _ | | | | | | _ | | | | | | | | | | |
| Casing Type | | | Bore Diam | | Casin | ng Depth Casing Diameter V | | | | eight Per Foot Full Length Cement | | | | | | | | | |
| | | | ┸ | | ┖ | | | | | Yes No (Explain) | | | | | iain) | in) | | | |
| | | | П | | | | | | | | |] Ye | 6 🗆 | No (Exp | iain) | | | | |
| | | | Τ | | Т | | | | Г | | \neg | | | No (Exp | | | | | |
| Tubing Inf | inema | tion | | | | | _ | | _ | | | | | .au (Exp | ani) | | | | |
| TUBING DIAM | | | DEPTH | PACKER | DEPTH | PACKER | DIAMETER | PACKER | t TYPE | | | | A | NTI-CORRO | SIVE 4 | NNULAR FLUID | | | |
| | IN. | | | | FT | | IN. | | | | | | ľ | | | | | | |
| Perforation | | | FI | - | FI | | IN. | | | | | | | | | | | | |
| Perforation | Perfor | | | ation Type | | Perforation | | Perforation | _ | Perfora | fion | | Perfo | rations Per | Genl | ogic Stratum Nam | _ | | |
| Top | Bottor | | reno | auon Type | | Diameter | | Vidth | | Length | oon . | | Foot | rations Fe | | Missouri nomencia | |) | |
| | | | □Ro | und 🗆 | Slotted | | | | | | | | | | | | | | |
| | | | □Ro | und 🗌 | Slotted | | | | | | | | | | | | | | |
| | | | Ro | und 🗀 | Slotted | | | | | | | | | | Γ | | | | |
| Liner Infor | matic | on | | | | | | | | | | | | | | | | | |
| LINER COMPO | OBITION | 4 | - 1 | CEMENTED | | DIAMETER LINER - DEPT | | PTH T | H TO LINER - DEPTH TO | | | O PERFORATED | | | DEPTH TO TOP OF PERFORATIONS | | DEPTH TO BOTTOM OF PERFORATIONS | | |
| Steel | | | | Yes | | | l' | OP. | | | OM | | | Yes | | | | | |
| Other_ | | | | No | | | IN. | | F | т. | | | FT. | No | | FT | Ϊ, | FT. | |

SEND COMPLETED FORM TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY,
GEOLOGIC RESOURCES SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: plandom/Ddor.mo.cov

Form 8: <u>780-0215</u>

| 9 | ≋ ≋ |
|---|------------|
| ð | (4) |

MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM

OIL AND GAS WELL PLUGGING REPORT

| FOR OFFICE USE ONLY | DATE RECEIVED |
|---------------------|---------------|
| CHECK NUMBER | CHECK AMOUNT |
| PROCESSED BY | |

| | • | | | | | | | - 1 | PROCESS | ED BY | | | | | | | | |
|--------------------------|---|------------------------------------|---|----------|---------------|---------|----------|--------------|-----------------------|---------|---------|-----------|--|-------------------|--------|----------|---------|-----------|
| WELL OW | VNER INFORMAT | ION | | | | | | | | | | | | | | | | |
| NAME OF COM | MPANY, ORGANIZATION, | OR INDIVIDUAL T | HAT DR | ILLS, M | AINTAINS, C | OPERA' | TES, OR | CONT | ROLS OIL A | ND GAS | WELLS | IN MISSOL | JRI OPEI | RATOR | LICENS | BE NUMBE | ER | |
| MAILING ADDR | RESS | | | | | | | (| CITY | | | | STAT | rE | ZIP C | CODE | | |
| PRIMARY CON | NTACT NAME | | TITLE | | | | | ARY P | HONE NUM E | BER WIT | Н ЕМА | IL ADORE: | 88 | | _ | | | |
| | FORMATION (LAT | | | | JDE MUS | ST BI | ENAL |)83 <i>F</i> | AND AS | | | DEGRE | E TO | THE F | IFTH | 1 DECI | MAL) | |
| COUNTY | | LEGAL DES | CRIPTIC | NI. | | | | | | LATITUD | Œ | | | LONG | TUTDE | | | |
| | UNIT (LEASE OR SURFA | Sec. | T | wp. | N L NUMBER | Rng | | | E W | ED 1454 | | ER (FOR E | | | | 0001010 | E E 4 E | - |
| PRODUCTION | UNIT (LEASE OR SURPA | CE UNIT NAME) | | WEL | LNUMBER | | WE | LL PER | OMIT NUMB | ER AM | NUMB | ER (FOR E | XISTING | WELL O | NLY) | GROUND | ELEVATI | ON FT. |
| APPLICATION | TO DRILL THIS WELL WA | AS FILED IN NAME | OF | HAS | THIS WELL | EVER I | RODUC | ED OIL | OR GAS | DR | Y HOLE | | | TOTAL | WELL | DEPTH | | FI. |
| | | | | | Yes □ N | lo. | | | | | Vor | □ No | | | | | т. | |
| WELL USE (SE | ELECT ONE) | | | <u> </u> | res LIN | *** | | | | | 169 | _ NO | | | | - | ч. | _ |
| Production | Well: OII | | [| Cor | mmercial | gas | | | ☐ Non- | comme | rcial g | 36 | Co | albed r | netha | ane | | |
| Injection W | eli: Enhan | iced oil recove | ery [| Dis | posal of f | ormat | ion flui | ds | Cycli | c steam | stimi | ulation | □ Ott | ner (exp | plain | in comm | nents b | OX) |
| Other Well | | raphic test | [| Obt | servation | for_ | | | | | | | | | | in comm | | OX) |
| WELL ORIENT Vertical | ATION (SELECT ONE) Well Well der | oth | | | FT. | | | | | | | | STATIC | WELLHE | EAD PF | RESSURE | | |
| Horizon | | ed vertical dep | oth | | FT. | Hori | zontal | boret | nole lengt | th | | FT. | | | | PSI | | |
| | UGGING INFORM | MATION | | | | | | | | | | | | | | | | |
| PLUGGING ME | | | | | | | | | | | | | DATE P | LUGGED |) | | | |
| | ☐ Pressure grout | Other (pric | or appr | roval n | equired)_ | | | | | | | | | | | | | |
| _ | Information | Ct. 1 | | | m.a. | | | _ | | In | | | 0:- | 12-4- | | | | _ |
| | each stratum/strata Joil or gas | open to | Stratum/strata Fluid content of open to well bore at time of plugging | | | | | | | | | | Size, kind and depth of plugs used, stating amount of cement/gel/mud | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | Yes | □ No | , | | | | | | | | | | | | | | |
| | | ☐ Yes | □ No | , | | | | | | | | | | | | | | |
| | | ☐ Yes | □ No | , | | | | | | | | | | | | | | |
| | truction Information | | | | | | | | | | | | | | | | | |
| Size Pipe | Put in Well (FT.) | Pulled Out (| (FT.) | Lefti | in Well (F | FT.) | | | n and Me not, Ripp | | | ting | Packe | ers an | d Sh | oes | | |
| | | | | | | | | | | | | | | | | | | _ |
| | | | | - | | - | | | | | | | - | | | | | _ |
| SELECT ONE Perforati | ed casing 🔲 Open | hole Perforat | ed/ope | n hole | e depth in | terval | from | | F | r. to | | FT. | BRIDGE No | PLUG Ye | 26, de | pth | | FT. |
| Was the su Was the we | ilpment associated w rface casing cut thre ell site left, as nearly DISPOSAL OF MUD PIT CO | e feet beneatt as practical, ir | n the la | and su | rface? | ss It e | dsted (| before | the well | was plu | ugged | ? | | Yes Yes Yes | | 0 | | |
| COMMENTS | | | | | | | | | | | | | | | | | | _ |
| MO 780-0217 (| 03-18) SEND COMPI | ETED FORM ALO | NG WIT | H \$50 P | LUGGING | EE NO | LATER | THAN | THIRTY (% | DAYS A | FTERV | WELL HAS | REEN PL | UGGEN | TO: | | | _ |

SEND COMPLETED FORM ALONG WITH 550 PLUGGING FEE, NO LATER THAN THIRTY (39) DAYS AFTER WELL HAS BEEN PLUGGED, TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-584-2100 FAX: 573-384-2111 EMAIL: <u>John 55480 GHV no 300</u>

Form 9: <u>780-0217</u>

| | MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM |
|---------------|---|
| ⊘ • ∞∞ | GEOLOGICAL SURVEY PROGRAM |
| A (4) | OIL AND GAS WELL CONVERSION TO A WATER WELL APPLICATION |

| WELL OWNER INFO | ORMATION | | | | | | | |
|--|-------------------|---|--|---------------|------------|-------------------------------------|--------------|--------------------|
| NAME OF COMPANY, ORGA | NIZATION, OR INDI | VIDUAL THAT DRILLS, MAINTA | NINS, OPERATES, OR | CONTROLS O | IL AND GAS | WELLS IN MISSOU | RI OPERATOR | R LICENSE NUMBER |
| Will the well remain und is the ownership of this LANDOWNER INFO | well being tran | operator's ownership? isferred to a landowner? | Yes No | (If yes, plea | se comple | ete landowner s | ection below |) |
| LANDOWNER NAME | | | | | | | | |
| MAILING ADDRESS | | | CITY STATE | | | ZIP CODE | COUNTY | |
| EMAIL ADDRESS | | | | | PRIMARY P | HONE NUMBER W | TH AREA CODE | į |
| WELL INFORMATION | ON | | | | | | | |
| API NUMBER | | WELL NUMBER | R PRODUCTION UNIT (LEASE OR SURFACE UNIT | | | | COUNTY | |
| DEPTH TO FRESH WATER | FRESH WATER PR | RODUCING STRATUM NAME | | WELL TYPE | ☐ Inj | ection P | roduction | Stratigraphic Test |
| FT. | | | | Unknov | wn 🗆 Of | her | | |
| PRE CONVERSION | REQUIREM | ENTS | | | | | | |
| If this well is being transferred from an operator to a landowner, an oil and gas transfer of well(s) and/or transfer of injection permit(s) form must be submitted with this conversion to a water well application. | | | | | | | | |
| Per 10 CSR 50-2.060(4) Conversion to Domestic Water Supply Well, the following is required for conversion of an oil and gas well to a domestic water well: • An oil and gas well conversion to a water well application must be submitted within thirty (30) calendar days after proposed conversion of the well. • The well must have been reconstructed, or for a stratigraphic test well, must have been constructed, as a water well by a Missouri permitted water well installation contractor and must meet water well construction standards as set forth in the Water Well Drillers Act, Chapter 256, RSMo and the implementing Missouri Well Construction Rules 10 CSR 23. • A well registration or certification, as appropriate per those rules, shall be received before the state geologist will approve the conversion agreement and release the applicable bond. | | | | | | | | |
| WELL CONVERSIO | | | | | | | | |
| NAME OF WATER WELL INS | TALLATION CONTR | ACTOR | | PERMIT NU | MBER | PRIMARY PHONE NUMBER WITH AREA CODE | | |
| WELL CERTIFICATION/REGIS | STRATION NUMBE | R | | | | DATE OF CONST | RUCTION/RECO | NSTRUCTION |
| CERTIFICATION | | | | | | • | | |
| I, the undersigned, certify that: I am authorized to act as an agent for the fore mentioned operator/landowner. The facts stated herein are true, correct and complete to the best of my knowledge. I understand this form shall be submitted no less than thirty (30) days after the conversion of the oil and gas well to a domestic water supply well. I have read, understand and am in compliance with the Missouri Code of State Regulations Oil and Gas Council Rules 10 CSR 50-2.050(4) and Missouri Well Construction Rules 10 CSR 23. I understand that upon approval of this conversion, future regulation of this well must be in compliance with Missouri Code of State Regulations Missouri Well Construction Rules 10 CSR 23. | | | | | | | | |
| LANDOWNER SIGNATURE | | | | | | DATE | | |
| FOR OFFICE USE (| ONLY | | | | | • | | |
| APPROVED BY | | | | | | DATE | | |

MO 780-0218 (04-18) SEND COMPLETED FORM TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 256, ROLLA, NO 65402 PHONE: 573-358-2100 FAX: 573-368-2111 EMAIL: clambassicini.mo.acc

Form 10: <u>780-0218</u>

MISSOURI DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY PROGRAM

AND DISPOSAL DEPORT

| 7 | AND D | DISPOSA | L REPO | RI | | | | | | | | | | |
|--------------------------|---------------|---------------|--------------|---------------|----------|---|----------|----------------|------------------|--------------|-----------|--|--|--|
| | | | | | | | | REPORT MON | TH RE | PORT YEAR | | | | |
| OPERATO | R INFORM | MATION | | | | | | | | | | | | |
| | | | DIVIDUAL THA | T DRILLS, MAI | NTAINS | OPERATES, OR CONTROLS | INJECTIO | N WELLS IN MIS | SOURI OP | ERATOR LICEN | SE NUMBER | | | |
| | | | | | | | | | | | | | | |
| POOL INFO | | | | | | | | | | | | | | |
| PRODUCTION U | INIT (LEASE O | R SURFACE UN | IIT NAME) | | | | | | COUNTY(S) | | | | | |
| | | • | | SPACING | | T) WELL STATUS, P | RODU | CTION AND | DISPOSAL IN | IFORMATION | ON | | | |
| PRODUCTION U | INIT (LEASE O | R SURFACE UN | IIT NAME) | | NAM | E OF FIRST PURCHASER | | | | | | | | |
| Production | | | | | | | Disposal | | | | | | | |
| Oil | | Gravity | Gas | Price | | Total sold | Water | | Water type* | Water | Disposal | | | |
| (bbls) | | (API) | (MCF) | (per unit) | | (bbls or MCF) | (bbls) | | | (bbls) | method** | | | |
| | | | | | | | | | | | | | | |
| Well Type a | | | | | | | | | • | | | | | |
| Туре | Number | of Active V | lells . | | Nur | nber of Inactive Wells | (comp | lete back of | form if inactive | wells indica | ated) | | | |
| Production | | | | | | | | | | | | | | |
| Injection | | | | | | | | | | | | | | |
| Other | | | | | | | | | | | | | | |
| SECOND U | NIT (LEA | SE, PROD | UCTION, | OR SPACE | NG U | INIT) WELL STATUS | , PRO | DUCTION A | AND DISPOSAL | LINFORMA | ATION | | | |
| PRODUCTION U | NIT (LEASE O | R SURFACE UN | IIT NAME) | | NAME | E OF FIRST PURCHASER | | | | | | | | |
| Production | | | | | | | | | Disposal | | | | | |
| Oil | | Gravity | Gas | Price | | Total sold | Wate | r | Water type* | Water | Disposal | | | |
| (bbls) | | (API) | (MCF) | (per unit) | | (bbls or MCF) | (bbls) | | | (bbls) | method** | | | |
| | | | | | | | | | | | | | | |
| Well Type a | and Well S | tatus | | | | • | | | | • | • | | | |
| Туре | Number | of Active V | lells | | Nur | nber of Inactive Wells | (comp | lete back of | form if inactive | wells indica | ated) | | | |
| Production | | | | | Г | | | | | | | | | |
| Injection | | | | | | | | | | | | | | |
| Other | | | | | | | | | | | | | | |
| "Water Type: | E Eroch | e eat 0 | Other (n) | aco ovolalo | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| "Disposal M CERTIFICA | | njection, E – | Evaporatio | n, O – Othe | r (plea | ise explain) | | | | | | | | |
| I, the undersi | gned, certif | y that: | | | | | | | | | | | | |
| | | | | | | submission of this report is true, correct and cor | | o the best of | my knowledge. | | | | | |
| PRINT NAME | | | | | TITLE | | C | OMPANY | | | | | | |
| PRIMARY TELES | PHONE NUMBI | ER WITH AREA | CODE | | EMAIL | ADDRESS | | | | | | | | |
| SIGNATURE | | | | | <u> </u> | | | | DA | ve | | | | |
| SIGNATURE | | | | | | | | | DA | ii E | | | | |

MO 780-2219 (04-18) SEND COMPLETED FORM, WITHIN 45 DAYS AFTER THE END OF EACH CALENDAR MONTH, TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 250, ROLLA, MO 85402 PHONE: 573-388-2109 FAX: 573-388-2111 EMAIL: gillandons@du

Form 11: <u>780-0219</u>

| GEOLOGICAL SURVEY PRO | | SOURCES | FOR 0 | FFICE USE OF | NLY | |
|---|----------------------|--------------------|----------------|------------------|----------------|------------------------------------|
| GEOLOGICAL SURVEY PRO A S OIL AND GAS FIRST P | | EE REPORT | PROCESS | SED BY | DATE RECE | VED |
| E | | | CHECK N | UMBER | CHECK AMO | UNT |
| FIRST PURCHASER INFORMATION | | | | | | |
| NAME OF COMPANY | | | | GAS PURCHASE REP | | |
| MAILING ADDRESS | | CITY | Month | | | ear ZIP |
| | | | | | | - |
| PRIMARY CONTACT NAME | TITLE | PRIMAR AREA O | | RWITH EMAIL ADDI | RESS | |
| OPERATOR INFORMATION | · · | · · | | · · | | |
| NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL THAT | DRILLS, MAINTAINS, O | PERATES, OR CONTRO | LS INJECTION W | ELLS IN MISSOURI | OPERATOR | LICENSE NUMBER |
| CRUDE OIL | | | | | | |
| Per 10 CSR 50-1.050(1)(G), a fee of sixty or operator. The fee and assessment shall app the first purchaser of oil. | | | | | | |
| Production Unit (Lease or Surface Unit Name) | Date Purchased | Number of Barrels | Purchased | Price Per Barrel | | Fee (number of 0.60 per barrel) |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | \$ | DE OIL FEES ASSESSED |
| NATURAL GAS | | | | | | |
| Per 10 CSR 50-1.050(1)(H), a fee of seven marketed each month shall be assessed to the operator and shall be collected and sub- | each operator. Ti | he fee and asses | sment shall a | | | |
| | Date Purchased | Number of MCF P | | Price Per MCF | | Fee (number of .071 per MCF) |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| • | | • | | • | TOTAL GAS | FEES ASSESSED |
| METHOD OF PAYMENT | | | | | - | |
| ☐ Check or Money Order (Please enclose ☐ Credit Card (Transaction fee applies - Pl ☐ Automated Clearing House (Please attac | ease attach cont | act information of | person auth | orized to make | transaction |) |
| Total amount due (sum of crude oil, natural | gas and late fees | 5) | | | \$ | |
| CERTIFICATION | | | | | | |
| I, the undersigned, certify that: I am authorized to act as an agent The information on this form has b | | | | | est of my kr | nowledge |
| PRINT NAME | TITLE | ine and is true, O | COMPANY | ampiete to the t | CSC OF HITY KI | ionieuge. |
| PRIMARY PHONE NUMBER WITH AREA CODE | EMAIL ADDRESS | s | | | | |
| SIGNATI IRE | | | DATE | | | |

SEND COMPLETED FORM, FEE STATEMENT REPORT AND TOTAL ASSESSED FEES WITHIN 45 DAYS OF REPORTING MONTH TO:
MISSOURI DEPARTMENT OF NATURAL RESOURCES, NISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION,
PO BOX 256, ROLLA, MO 65402 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: cliandas/chin.mo.oox

Form 12: <u>780-0221</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM

OIL AND GAS CONFIRMATION OF OUT OF STATE IRREVOCABLE LETTER OF CREDIT

| CONFIRMING BANK AGREEMENT | | | | | | | | |
|--|---|-----------|---------|------------|--------------------|--|--|--|
| | | | | | | | | |
| We, the | NAME OF CONFIR | MING BANK | | | | | | |
| | | | | | | | | |
| | ADDRESS OF CONFI | RMING BAN | iK. | | | | | |
| at the request of | NAME OF ISSUIN | IG BANK | | | | | | |
| of | | | | | | | | |
| | ADDRESS OF ISSU | JING BANK | | | | | | |
| hereby confirm Irrevocable Letter of Credit No. | | | | | date iss | ued | | |
| Issued by | NAME OF IRRUIN | 2 BANK | | | | | | |
| to you in the amount of | | | affache | d hereto a | and incomorated | hy reference | | |
| Correspondence concerning this Confirmation, | | | | | | • | | |
| Correspondence concerning this Continuation, | including demands for p | ayment, | Snall D | e address | ed to us at | | | |
| | | | | | | | | |
| | | | | | | | | |
| CONFIRMATION | | | | | | | | |
| By this Confirmation we undertake to honor each demand for payment made by you under the above-referenced Letter of Credit and presented to us according to its terms, up to the amount stated above. Payment of each demand shall be as specified in the above-referenced Letter of Credit. This Confirmation shall be subject to all terms, conditions, warranties and limitations in the above-referenced Letter of Credit, and this Confirmation shall terminate only under the conditions and limitations of the above-referenced Letter of Credit. When construing this Confirmation according to the terms, conditions and limitations of the above referenced Letter of Credit. This Confirmation shall be substituted for the term "this Letter of Credit." | | | | | | | | |
| We, the confirming bank, certify that the officer behalf. | | | | | | | | |
| CONFIRMING BANK AGENT SIGNATURE | | F | RINTED | NAME | | | | |
| | | | | | | | | |
| OFFICIAL TITLE | PRIMARY PHONE NUMBER V | MTH AREA | CODE | EMAIL ADDR | RESS | | | |
| NOTARY PUBLIC EMBOSSER OR RUBBER STAMP SEAL | SUBSCRIBED AND SWORN E | SEFORE ME | ON TH | 8 | | | | |
| | | | | | DAY OF | IN THE YEAR | | |
| | STATE | COUNTY | | | | MY COMMISSION EXPIRES | | |
| | NOTARY PUBLIC SIGNATURE | E | | | | | | |
| | NOTARY PUBLIC NAME (PRI | um. | | | | | | |
| | NOTART PODDIC RAME (PRI | ***) | | | | | | |
| COUNTER SIGNATURE | ' | | | | | | | |
| PRESIDENT OR VICE-PRESIDENT SIGNATURE | | PRINTED | NAME | | | OFFICIAL TITLE | | |
| NOTARY PUBLIC EMBOSSER OR RUBBER STAMP SEAL | SUBSCRIBED AND SWORN E | SEFORE ME | ON TH | 8 | | • | | |
| | STATE | COUNTY | | | DAY OF | IN THE YEAR MY COMMISSION EXPIRES | | |
| | STATE COUNTY MY COMMISSION EXPIRES | | | | | | | |
| | NOTARY PUBLIC SIGNATURE | E | | | | | | |
| | NOTARY PUBLIC NAME (PRI | MTD. | | | | | | |
| | , | | | | | | | |
| MO 780-1136 (03-18) SEND ORIGINAL COMPLETED FO MISSON | ORM AND ORIGINAL FINANCI URI GEOLOGICAL SURVEY, G PHONE: 573-388-2100 | EOLOGICA | L SURVE | Y PROGRAI | A, PO BOX 250, ROL | RTMENT OF NATURAL RESOURCES, LA, MO 65402 | | |

Form 13: <u>780-1136</u>

| MISSOURI DEPAR MISS | | | SOURCES | | FICE USE (| DNLY | | | | |
|---|-----------------|----------------------------|---------------------------------------|----------------|----------------------|-------------|-------------------|-----------|--------------------|------|
| GEOLOGICAL SU CLOSED LOO | P HEAT P | UMP | | REF NO. | | | DATE REC | EIVED | | |
| CERTIFICATIO | ON REPOR | RT . | | CR NO. | | | CHECK NO |). | | |
| ROUTE APPRO | OVED | DATE | ENTERED | STATE CER | T NO. | | REVENUE | NO. | | |
| 1 1 1 | | | | I | | | | | | |
| OWNER INFORMATION | , | · · | | | | | | | | |
| NAME | | | | | | TELEPHO | ONE NUMB | ER WITH | AREA CODE | |
| MAILING ADDRESS | | | CITY | | | STATE | | ZIP CC | DDE | _ |
| | | | | | | | | ┸ | | |
| PHYSICAL ADDRESS OF WELL SITE (IF DIFFI | | СПУ | | | | (If issu | NCE NUMBER ed) | | | |
| PRE-NOTIFICATION AND HVAC C | OMPANY INF | ORMATION | LOCATION | INFORMA' | TION | | | , | | |
| | | | LOCATION | in Orama | | | | | | |
| Pre-notification made for installation of gro | | res 🗆 No | Lat. | | '_ | | _" D | rill Area | | _ |
| HVAC company installing fluid | _ | res No | 1 | _ | | | | | (Office use only) | 1 |
| HVAC company connecting loops | | Yes No | Long. | °_ | | | " 0 | ounty _ | | |
| Contractual agreement was made with the company to install the system | | Yes 🗆 No | | _ | % | % | <u> </u> | _% | | |
| If yes to any of the above, please provide | name of HVAC | company below: | Section | То | wnship | N | Range | | □₌□ | Πw |
| CLOSED LOOP MATERIAL INFOR | MATION | | | | FORMATION | | | | | |
| PROPOSED TYPE OF HEAT TRANSFER FLUI | D HEAT PUMP R | TATING DIAMETER OF PIPE | NUMBER OF H | OLES DRILLE | DIAMETER | OF BORE | HOLES D | EPTH OF | BOREHOLES | |
| Methanoi Ethanoi Glycoi Water Other | | | , | | | | in. | | | Ft. |
| TOTAL AMOUNT OF PIPE PIPE MATERIAL | _ | TORS I | | | METHOD | OF INSTAL | | RE ALL V | VELLS CONSTRUC | |
| | ne □ Polyethyle | ene 🗆 Copper | GROUT TYPE Bentonite: | | Gravit | | | | VELLS CONSTRUC | |
| HOW WAS LOOP MATERIAL CONNECTED | PERMANENT CA | | Non slurry ☐ Thermal gr | | _ | thru trem | | Yes | tach differences | |
| ☐ Thermal | ☐ Yes ☐ No | | Other | out surry | ☐ Gravit | y thru tren | nie L | | ruction | |
| Other | FILL MATERIAL C | | DOOT OF C | DOLE OF H | ALL REPORTS OF SHAPE | 0.000 | li no ne | n a saw I | OT 1710 1111 TED 1 | 0.0 |
| | ☐ Yes ☐ No | HLORINATED | POSITION OF C | | NUMBER SACK HOLE | | LBS PE | KBACK | STATIC WATER L | EVEL |
| | L 163 L 160 | | Series of 5 | | (Excluding oil and g | as plug) | | | | |
| CASING INFORMATION | | | PLUG INFO | RMATION | DEP | TH | FORM | LATION | DESCRIPTIO | |
| LENGTH DIAMETER OF CASING | MATERIAL | Weight (Lb.), SDR# | | hydrated after | FROM | то | FORM | IATION | DESCRIPTIO | N |
| Ft. In | Steel Plastic | SCH | emplacement Yes | | | | \top | | | |
| CASING DRIVEN DIAMETER OF DRILL | PACKER USED O | N PVC CASING | | | | | | | | |
| ☐ Yes HOLE | ☐ None | Rubber boot | Depth to top and | bollom of | 1 | | | | | |
| □ No In. | Coupling | Inverted bell | near surface plu from original gro | g as measured | | | | | | |
| GROUT MATERIAL Cement Bentonite | Number of | sacks used | | | | | | | | |
| Type I Chips Granular | Lbs. per se | ck | Тор | FŁ | l | | | | | |
| Type III Pellets Slurry METHOD OF INSTALLATION | | SUSPENDED | Bottom | Ft. |] | | | | | |
| ☐ Gravity ☐ Open hole | ☐ Yes | Hrs | List depth to top | of each plug | | | | | | |
| ☐ Pressure ☐ Tremie OIL OR GAS INFORMATION | □ No | | 1 | Pt. | | | | | | |
| OIL OR GAS INFORMATION Oligas encountered | □ Yes □ | 7 No | 2. | Pt. | | | | | | |
| Well terminates in an oil/gas zone | □Yes □ | | | | | | | | | |
| Depth ol/gas zone encountered | Top | Bottom | 3, | Ft. | | | | | | |
| Depth of plug | Тор | Bottom | L. | Pt. | TOTAL DEPTH | | | | | _ |
| Amount of grout used for cement plug | | Sacks | | | | | | | | |
| I hereby certify the heat pump herein described was constructed in accordance with department of natural resources requirements. (All fields must be completed but only | | | | R. | DATE WELL DE | BLLING W | AS COMPL | ETED | | |
| one signature is required) PRIMARY CONTRACTOR (IF DIFFERENT THA | 0 | | PERMIT NUMBE | ER | | DATE | | _ | | |
| WELL INSTALLATION CONTRACTOR | | | | | PERMIT NUMBE | ER | | DATE | | |
| | | DI 50 | | | | | | 0.487 | | |
| WELL INSTALLATION CONTRACTOR APPRE | | | | | PERMIT NUMBE | | | DATE | | |
| MO 780-1413 (01-18) | CERTIFICATION | N FEES - \$100 FOR S | YSTEMS 50 TONS | OR LESS, \$20 | OFOR SYSTEMS | GREATER | THAN 50 | TONS | | _ |

CERTIFICATION FEES - \$100 FOR SYSTEMS 50 TONS OR LESS, \$200 FOR SYSTEMS GREATER THAN 50 TONS SEND COMPLETED FORM ALONG WITH FEE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI DEOLOGICAL SURVEY, WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 45402 PHONE: 573-385-21465 FAX: 573-385-2317 EMAIL: welldrillensfort.mo.gov RECORD (AND FEE) MAY BE SUBMITTED ONLINE: dnr.mo.gov/innowells

| | | I DEPARTM | | | | RES | OURCE: | | OR OF | FICE USE (| DNLY | $\overline{}$ | DATE RECEIV | |
|---|---|--|----------|----------|-------------------|--------|---------------------------|------------------------|-------------|------------------|-----------------|---------------|---------------------------|---------------------------------|
| | | CAL SURVE | | | | ION. | DEDO | | EF NO. | | | | DATE RECEIV | ED |
| ₾ 🕸 | ECON | STRUCTI | | | | | | | | | | | | |
| ROUTE / / | | APPROVED | Di | TE | ENTE | RED | STATE C | ERT. NO. | | CHECK NO. | | | REVENUE NO | • |
| WELL OWNER | INFOR | RMATION | | | | | | | | | | | | |
| NAME | | | | | | | | | | | TELEPHON | E NUM | IBER WITH ARE | A CODE |
| MAILING ADDRESS | | | | | | | | | СПУ | | | | STATE | ZIP CODE |
| PHYSICAL ADDRESS | OF PROPE | ERTY WHERE WE | LL IS LO | CATED (I | F DIFFERE | NT THA | N MAILING | ADDRESS) | СПУ | | | EMAIL | ADDRESS | • |
| GENERAL WE | LL INF | ORMATION | | | | | | | | | , | | | |
| DATE WELL WAS RECONSTRUCTED | | CERTIFICATION (RENCE NUMBER (| | | LNUMBER | | NICE NUMB BUED) | ER ORIGIN | AL DRILLE | R (If known) | | | DATE ORIGIN (IF KNOWN) | ALLYDRILLED |
| TYPE OF REPAIR REGULATORY SITE ID NUMBER OF DIVIDED TO NUMBER OF SITE, BUSINESS, OR CLEANUP PROJECT REGULATORY SITE ID NUMBER OF DIVIDED TO NUMBER OF DIVIDED TO NUMBER OF SITE, BUSINESS, OR CLEANUP PROJECT REGULATORY SITE ID NUMBER OF SITE, BUSINESS, OR CLEANUP PROJECT REGULATORY SITE ID NUMBER OF SITE, BUSINESS, OR CLEANUP PROJECT REGULATORY SITE ID NUMBER OF DIVIDED TO NUMBER OF SITE, BUSINESS, OR CLEANUP PROJECT REGULATORY SITE ID NUMBER OF DIVIDED TO NUMBER OF SITE, BUSINESS, OR CLEANUP PROJECT REGULATORY SITE ID NUMBER OF DIVIDED TO NUMBER OF | | | | | | | | | | | | | | |
| LOCATION INF | ORMA | TION | | | | | | | | | | | • | |
| Lat. | | <u>. </u> | 00 | UNTY | | | | | | .56 | - 54 | | _% | DRILL AREA (OFFICE USE ONLY) |
| Long. | | <u> </u> | | | | | | Section | To | ownship | N Range | | DED1 | w |
| WATER WELL | INFOR | MATION | | | | | | ' | | | | | | |
| TYPE OF WELL | | | | | | | | | | | | | | |
| □ Domestic □ Hig | | | | | | | | | | | iter 🗆 Ol/g | as we | Il conversion t | o water well |
| CASING CASING DIAMETER (IF KNO | | WELL CASING S CONNECTION | SEAL OR | STAT | IC WATER NOWN) | LEVEL | | LORINATED ECONSTRUC | | LLER NOTES | | | | |
| | | ☐ Well seal ☐ Pitiess unit | | | | | ☐ Yes | | | | | | | |
| in. | ft. | ☐ Pitiess ada | | ┸ | | ft. | □ No | | 上 | | | | | |
| MONITORING | WELL | INFORMATI | ON | | | | | | | | | | | |
| TYPE OF REPAIR | | | | LE Al | INGTH OF I | RISER | RISER MA | TERIAL | ORIGIN | IAL RISER IAL | | | TACHMENT | TYPE OF SURFACE COMPLETION |
| Over-drill and red | surface o | completion | | | | | ☐ Plast | c | □ Pla | stic | ☐ Threa ☐ Coupi | _ | | ☐ Above ground |
| Raise or lower so Attach diagram st | | | tion det | alle | | Ħ. | Stain | ess steel | □ Sta | inless steel | Glue | | | Flush mount |
| LINER INFORM | MATION | ı | | | | | • | | | DEEPENII | NG OF W | ELL | INFORMA | TION |
| USE (Choose one) | | LENGTH | | OUTSID | | | HT (LB.) OR | | | DEP | тн | П | FORMATIO | ON AND YIELD |
| ☐ Hold back formal | tion | | t. | DIAMET | in. | SUTUR | SCH | ☐ Plast | | то | FROM | 1 | | RIPTION" |
| ☐ Prevent rust ☐ Seal out undesin | able | DEPTH TO | | PACKER | | PVC LI | NER DEPT | I PACKERS | BET | | | | | |
| conditions | | LINER | ft. | | Yes 🗆 | No | - 1 | , , | ft. | | | | | |
| POSITION OF SEAL | GROUT T | YPE (CHOOSE OF | NE) | | NUMBER SACKS U | | METHO | OF GROUT | | 1 | | | | |
| Full length | CEMENT | Γ □ Type I | □ Туре | III | SALKS | JOED | □ Gra | | | | | | | |
| □ Bottom | BENTON | | | | LBS PER | BACK | ☐ Pre: | sure tremie | | | | | | |
| | | ☐ Chips ☐ Pellets | ☐ Gran | | Ι. | | . Asi | ner is instal | led | | | | | |
| RAISED CASIN | IG INF | ORMATION | | | | | | | | | | | | |
| LENGTH ADDED | | G MATERIAL | | | NG MATERI | | | ATTACHME | NT | 1 I | | | | |
| ft. | ☐ Pla | | ☐ Plas | | | | Thread Couple | | | | | | | |
| I hereby certify that | | | | | | | | | nt of | 1 I | | | | |
| PRIMARY CONTRACT | | | | | but only o | _ | nature is re MIT NUMBE | | | - I | | | | |
| | | | | | | | | | | | | | | |
| WELL OR PUMP INST | WELL OR PUMP INSTALLATION CONTRACTOR PERMIT NUMBER DATE | | | | | | | | | | | | | |
| WELL OR PUMP INST | | | | | | | MIT NUMBE | | | 1 | | Ι ¯ | ATTACHED | |
| MO 780-1414 (01-18) | SEND FO | RM WITH \$50 FEI L INSTALLATION | SECTION | L PO BO | X 250, ROL | LA, MC | 65402-025 | PHONE: 57 | 3-368-216 | 5 FAX: 573-388-2 | TAL RESOUR | CES, I | HISSOURI GEO | LOGICAL SURVEY, |
| | | | | RECORD | (AND FEE | MAY | BE SUBMIT | TED ONLINE | https://dor | mo.cov/movels/ | | | | _ |

Form 15: <u>780-1414</u>

| | MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM MONITORING WELL CERTIFICATION REPORT |
|------------|--|
| MOTE: This | form is not to be used for posted wells |

| OFFICE USE | ONLY | DATE RECEI | DATE RECEIVED | | | | | | | |
|---------------|----------|------------|---------------|---|--|--|--|--|--|--|
| REFERENCE NO | | CHECK NO. | | | | | | | | |
| STATE WELL NO | | REVENUE N | Ö. | | | | | | | |
| ENTERED | APPROVED | DATE | ROUTE | , | | | | | | |

| NOTE: This fo | rm is not to be used | for nested v | wells | | ENTERED | ľ | | | LAIL | | / / |
|--|---|--------------------|-------------------------------------|-------------------------------|-------------------|-------------|------------|---|--------------------|----------------------|---|
| OWNER AND | SITE INFORMATION | | | | | | | | | | |
| PROPERTY OWNER | NAME WHERE WELL IS LOCAT | ED | | PRIMARY PHON | E NUMBER | WITH AREA | CODE | WELL NUM | BER | WELL COMPLETION DATE | |
| PROPERTY OWNER | MAILING ADDRESS | | | | CITY | | | STAT | Έ | ZIP CODE | |
| PHYSICAL ADDRESS | OF PROPERTY WHERE WELL | IS LOCATED | | | CITY | | | cour | NTY | | |
| NAME OF SITE, BUSI | NESS, OR CLEANUP PROJECT | | DNR/EPA PROJEC | T NUMBER OR R | EGULATOR | Y SITE ID N | UMBER (| IF APPLICAB | BLE) | VARIANCE | NUMBER (IF ISSUE |
| PRIMARY CONTRACT | TOR NAME (PLEASE PRINT) | | | | PERMIT N | UMBER | | Section 258. to comply will pursuant to 1 | th all rules: | and regulation | all primary contracto one promulgated 8,640 RSMo. |
| SURFACE COMPL | ETION | | | | | | L | OCATION O | | | |
| TYPE | LENGTH AND DIAMETER OF | DIAMETE | R AND DEPTH OF | THE HOLE SUF | RFACE COM | PLETION OF | ROUT | | | | |
| Above Ground | SURFACE COMPLETION | | E COMPLETION W | | | | ľ | .ettude | | | <u> </u> |
| ☐ Flush Mount | Length FT. Diameter IN. | Diameter Length | IN. FT. | I | Concrete Other | | _ | .ongitude | | | <u></u> |
| Locking Cap | · | · | | SURFACE (| COMPLETI | ON | ٤ | BMALLEST | | LARGEST | |
| ☐ Weep Hole | | T | | ☐ Steel ☐ | | | - | × | | × | |
| | | | | | | | - 1 | Section Sange | To | enship | North |
| | _ | | | RISER OR (| CARING (IE | OPEN HO | NE . | YPE OF WE | LL (CHECK | (ONE) | - Indiana |
| Elevation | FT. | - [1] | 11 1 | COMPLETIO | | OI EN III | | Direct Pusi Gas Migrat Observatio | tion Hi | ection | Inclinometer Lysimeter |
| | | | | Riser/Casing I | Xameter | IN | <u>ا</u> ا | Piezomete: | n 📙 S | pen Hole bandard | Other (specify) |
| ANNULAR SEAL | _ | 1.1 | | Riser/Casing L | ength. | F | | MONITORING | FOR (CH | ECK ALL TH | AT APPLY) |
| | FT. | - 11 | - | Diameter Of Dr | | IN | • lī | Pesticides/ | Herbicides | ☐ Metal | eum |
| Slumy Chip | | | | Weight Or SD | R# | | ŀ | VOCS (nor | des n-petroleum | SVOC | 8 schnical Data |
| ☐ Pellets ☐ Gra ☐ Cement/Slurry | nuter | 1.1 | | MATERIAL | | | ľ | | PTH | FORM | ATION DESCRIPTION |
| | | | | Steel | Thermoples | dic (PVC) | ı | FROM | TO | (OR AT | TACH BORING LOC |
| IF CEMENT/BENT | ONITE MIX: | | 11 L | □ Other | | _ | Γ | | | | |
| Bags of Cement Used | | 1.1 | | | | | | | | | |
| % of Bentonite Used | | | | BENTONITE | | | | | | | |
| Water Used Per Beg | GAL | 11 | 177 | | ESEAL | | | | | | |
| | | 111 | 11 | Length | Pallata III C | rom for | | | | | |
| | | 22 | 2.5 | ☐ Seturated 2 | | | | | | | |
| SECONDARY EILT | TER PACK LENGTH | - 15.4 | - | _ | | , | | | | | |
| SECONDARY FILE | _ | 11 | | | | | | | | | |
| | FT. | | 11 | | | | | | | | |
| | ļ. | 2098 | 950 | | | | | | | | |
| | | 100 | | SCREEN | | | | | | | |
| DEPTH TO TOP OF | F PRIMARY | 33 | | SCREEN Screen Diame | | IN. | , 1 | | | | |
| | 1.4 | 6 | 33 | Screen Drame Screen Length | | | | | | | |
| | FT. | 200 | | Diameter Of Dr | | | | | | | |
| | ٦ | 8 | | Depth To Top | | | | | | | |
| I ENOTH OF POR | ARY FILTER PACK | | 300 | 545115100 | • | | | | | | |
| LENGTH OF PRIM | ART FILTER PAGE | 2. | 1 | SCREEN M. | ATERIAL | | | | | | |
| | FT. | Act in | 32 | ☐ Steel | Thermoples | dic (PVC) | | | | | |
| | | 200 | - | ☐ Other | | _ | , | TOTAL DEPT | H: | | de al continue de la |
| | | | | | | | ľ | The bear I | | FT. | ring Log Attached |
| | ubmit additional as-built d ameter and grout used. | lagrams showl | ng well construc | tion details inc | oluding typ | e and size | of | STATIC WATE | | | INSTALLED |
| | nat the monitoring well he | rein described | I was construct | ed in accorda | nce with N | Alssouri D | epartm | ent of Na | | | |
| | INSTALLATION CONTRACTOR | | PERMIT NUMBER | | | | | INSTALLATI | | | PERMIT NUMBER |
| The state of the s | | | Land House | | | APPRENTIC | | | | | Jan Homork |
| MO 780-1415 (03-18) | SEND COMPLETED FORM AL | ONG WITH \$100 (| CERTIFICATION FE | E TO: MISSOUR | DEPARTM | ENT OF NAT | TURAL R | ESOURCES. | MISSOUR | GEOLOGI | CAL SURVEY. |
| | WELL INSTALLATION | ON SECTION, PO | BOX 250, ROLLA, N RECORD (AND FE | 40 6 5402 PHONE | E: 573-368-2 | 165 FAX: 5 | 73-368-2 | 317 EMAIL: | welldriller | n@dnr.mo. | you |

Form 16: <u>780-1415</u>

| 9 | ** |
|---|-----------|
| 7 | (1) |

MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM

VARIANCE REQUEST

| OFFICE USE ONLY | | | | | | | | |
|-----------------|------------|-------------|--|--|--|--|--|--|
| DATE RECEIVED | | RECEIVED BY | | | | | | |
| | | | | | | | | |
| VARIANCE | ☐ APPROVED | DENIED | | | | | | |

| | VARIANCE [| APPROVED | D DENIED |
|--|------------------|-----------------|------------------------------|
| WELL OWNER INFORMATION | | | |
| NAME | | TELEPHONE N | IUMBER WITH AREA CODE |
| | | | |
| MAILING ADDRESS CITY | | STATE | ZIP CODE |
| | | | |
| PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFERENT THAN MAILING ADDRE | Eees | CITY | |
| PHISICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFERENT THAN MAILING ADDRES | 199) | Cili | |
| | | | |
| WELL LOCATION INFORMATION | | | |
| COUNTY | | | |
| LAT | _ | % | _ % % |
| LONG | SECTION | TOWNSHIP | N RANGE DE W |
| CONTRACTOR INFORMATION | | | |
| NAME | | PERMIT NUMBER | |
| | | | |
| BUSINESS NAME | | TELEPHONE NUMB | BER WITH AREA CODE |
| | | | |
| BUSINESS ADDRESS CITY | | STATE | ZIP CODE |
| | | | |
| EMAIL ADDRESS | | | - |
| | | | |
| VARIANCE INFORMATION | | | |
| | | | |
| TYPE OF VARIANCE | | | |
| ☐ Administrative | | | |
| Construction – Explain how the well is to be constructed or plugged, a | nd the reason wh | v the construct | ion or plugging rules cannot |
| be met. Attach diagram or sketch below. | | ,, בוב כטוובנים | on or progging rates cannot |
| _ | | | |
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| | | | |
| | | | |
| VARIANCE REQUESTED BY (WELL OWNER OR CONTRACTOR) | | DATI | |
| WARRANGE REQUESTED BY (WELL OWNER OR CONTRACTOR) | | DATE | - |
| | | | |
| RULE NUMBER MODIFIED: 10 CSR 23 | | | |
| VARIANCE COMPLETED BY | | DATI | E |
| | | ı | |
| AASH SELF VA ALLES SU | | | |
| COPY SENT TO OWNER BY | | DATI | • |
| | | ı | |
| COPY SENT TO CONTRACTOR BY | | DATI | E |
| | | | |

MO 780-1422 (08-19) MAIL COMPLETED FORM TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, WELL INSTALLATION SECTION,
PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2185 FAX: 573-368-2317 EMAIL: widdfilera@dox.mo.gov

| \Diamond | *** |
|--------------|------------|
| <u>&</u> | (1) |

MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM CASING DEPTH REQUEST

| OFFICE USE ONLY | |
|------------------|--------------|
| DATE RECEIVED | RECEIVED BY |
| DATE PROCESSED | PROCESSED BY |
| DATE LETTER SENT | |

| WELL OWNER INFORMATION | | | | |
|---|--|--|-----------------------------|------------------|
| NAME | | TELEP | HONE NUMBER W | ITH AREA CODE |
| | | | | |
| AAILING ADDRESS | CITY | | STATE | ZIP CODE |
| | | | | |
| HYSICAL ADDRESS OF WELL (IF DIFFERENT THAN MAILING ADDRESS | 8) | | CITY | • |
| | | | | |
| CONTRACTOR INFORMATION | | | | |
| IAME | | PERM | T NUMBER | |
| | | | | |
| SUSINESS NAME | | TELEP | HONE NUMBER W | ITH AREA CODE |
| | | | | |
| SUSINESS ADDRESS | CITY | STATE | ZIP | CODE |
| | | | | |
| SUSINESS EMAIL ADDRESS | | | | |
| | | | | |
| WELL LOCATION INFORMATION | | | | |
| ATITUDE LON | SITUDE | COUNT | ſΥ | |
| | <u> </u> | · | | |
| | | | | ELEVATION |
| | | □ East | □ West | |
| 16 16 16 Section To: | voshio North Range | | | |
| | wnshipNorth Range | | | |
| TYPE OF WELL Charitable or Benevolent Organization Don | | | | Loop Heat Pump |
| TYPE OF WELL ☐ Charitable or Benevolent Organization ☐ Don | | | | Loop Heat Pump |
| TYPE OF WELL. Charitable or Benevolent Organization Don Comments: | | k | | Loop Heat Pump |
| TYPE OF WELL. ☐ Charitable or Benevolent Organization ☐ Don Comments: | nestic | k | | Loop Heat Pump |
| TYPE OF WELL Charitable or Benevolent Organization Don Comments: | nestic | Multi-Family | / □ Open I | Loop Heat Pump |
| TYPE OF WELL ☐ Charitable or Benevolent Organization ☐ Don Comments: | nestic | Multi-Family | / □ Open I | Loop Heat Pump |
| TYPE OF WELL ☐ Charitable or Benevolent Organization ☐ Don Comments: #UMBER OF SERVICE CONNECTIONS #UMBER OF PEOPLE SERVED YEAR-ROUND | used Year-Roun | Multi-Family | y ☐ Open i | Loop Heat Pump |
| TYPE OF WELL ☐ Charitable or Benevolent Organization ☐ Don Comments: HUMBER OF SERVICE CONNECTIONS HUMBER OF PEOPLE SERVED YEAR-ROUND | used Year-Roun | Multi-Family Multi-Family NO AT LEAST 60 DAYS PER | y ☐ Open i | Loop Heat Pump |
| Charitable or Benevolent Organization Don Comments: HUMBER OF SERVICE CONNECTIONS HUMBER OF PEOPLE SERVED YEAR-ROUND DESIRED YIELD REGIONAL OFFICES: Kansas City Regional Office St Louis Regional Office | USED YEAR-ROUT YES NUMBER SERVED DISTANCE FROM DE 816-622-7000 North | Multi-Family Multi-Family NO AT LEAST 60 DAYS PER | y ☐ Open I | 5-8000 |
| Charitable or Benevolent Organization Don Comments: HUMBER OF SERVICE CONNECTIONS HUMBER OF PEOPLE SERVED YEAR-ROUND DESIRED YIELD REGIONAL OFFICES: Kansas City Regional Office Southeast Regional Office St Louis Regional Office OFFICE USE ONLY | USED YEAR-ROUN VES NUMBER SERVED DISTANCE FROM DISTANCE FROM SEE 816-622-7000 North 573-840-9750 South 314-416-2960 | Multi-Family NO AT LEAST 60 DAYS PER MAJOR LAKE (IF WITHIN the cast Regional Off hwest Regional Off | YEAR I MILE) Toce 660-38: | 5-8000 1-4300 |
| Charitable or Benevolent Organization Don Comments: NUMBER OF SERVICE CONNECTIONS NUMBER OF PEOPLE SERVED YEAR-ROUND DESIRED YIELD REGIONAL OFFICES: Kansas City Regional Office Southeast Regional Office St Louis Regional Office OFFICE USE ONLY | USED YEAR-ROUN YES NUMBER SERVED DISTANCE FROM DE 816-622-7000 North 573-840-9750 South | Multi-Family Multi-Family NO AT LEAST 50 DAYS PER MAJOR LAKE (IF WITHIN | YEAR I MILE) Toce 660-38: | 5-8000 |
| Charitable or Benevolent Organization Don Comments: NUMBER OF SERVICE CONNECTIONS NUMBER OF PEOPLE SERVED YEAR-ROUND DESIRED YIELD REGIONAL OFFICES: Kansas City Regional Office St Louis Regional Office OFFICE USE ONLY | USED YEAR-ROUN VES NUMBER SERVED DISTANCE FROM DISTANCE FROM 573-840-9750 Sout 573-840-9750 Sout | Multi-Family NO AT LEAST 60 DAYS PER MAJOR LAKE (IF WITHIN the cast Regional Off hwest Regional Off | YEAR I MILE) Toce 660-38: | 5-8000 1-4300 |

Form 18: <u>780-1426</u>

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| <u>&</u> | (8) |

MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM PUBLIC WATER SUPPLY NOTIFICATION

| FOR OFFICE USE ONLY | | | | | | | | |
|---------------------|---------------|--|--|--|--|--|--|--|
| REF NO. | DATE RECEIVED | | | | | | | |
| | | | | | | | | |

Public water supplier shall submit this form within 60 days of client connection to the public system for households previously served by

| a well as stated in Se | ection 256.628 RSMo. | | | | |
|--|---|--------------------------|------------------------|--------------|---------------------|
| WELL OWNER INFO | DRMATION | | | | |
| NAME | | | TELEPHONE NUMB | ER WITH AREA | CODE |
| | | | | | |
| MAILING ADDRESS | | CITY | | STATE | ZIP CODE |
| | | | | | |
| PHYSICAL ADDRESS OF PRO | PERTY WHERE WELL IS LOCATED (IF DIFFERENT THA | N MAILING ADDRESS) | | СПУ | 1 |
| | | | | | |
| DATE OF CONNECTION TO P | UBLIC WATER SUPPLIER | | | | |
| | | | | | |
| | | | | | |
| | PPLIER INFORMATION | | | | |
| NAME | | | PWSS ID NUMBER MO - | | |
| | | | IIIO - | | |
| MAILING ADDRESS | | CITY | | STATE | ZIP CODE |
| | | | | | |
| CONTACT PERSON | | • | TELEPHONE NUMB | ER WITH AREA | CODE |
| | | | | | |
| LOCATION OF WEL | L | | • | | |
| | | | | COUNTY | |
| Latitude° | Longitude | * | ·· | | |
| | | | | | |
| % | | Township | N Ran | ge | DE DW |
| WELL OWNER STA | TEMENT | | | | |
| This part of the form information provided | must be completed by well owner before | connection to public w | ater. A departm | ent represe | entative may verify |
| | • | | | | |
| I hereby certify | that: | | | | |
| | Existing well(s) will remain in use and | will be properly plugged | when no longe | r in use. | |
| | All known abandoned wells on propert | y have been plugged. | | | |
| | All abandoned wells will be plugged wi | thin 90 days of connect | ion to public wa | ter. The we | ell owner |
| _ | must notify the department at 573-36 | | | | |
| | No known abandoned wells on propert | y. | | | |
| WELL OWNER SIGNATURE | | | | DATE | |
| | | | | | |
| | | | | | |

MO 780-1427 (09-19) SEND COMPLETED FORM TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-365-2165 FAX: 573-365-217 EMAIL: period in record resources, and provided in record resources.

Form 19: <u>780-1427</u>

| REF NO. ENTERED CATE RECEIVED RESTRATION REPORT RESTRATION REPORT RESTRATION NO. CHECK NO. REVENUE NO. RESTRATION REPORT RESTRATION NO. CHECK NO. REVENUE NO. RESTRATION REPORT RESTRATION FORM 789-2161 ROUTE APPROVED CATE RESTRATION FORM 789-2161 ROUTE APPROVED RESTRATION FORM 789-2161 ROUTE APPROVED CATE RESTRATION FORM 789-2161 ROUTE APPROVED RESTRATION FORM 789-2161 ROUTE APPROVED CATE RESTRATION FORM 789-2161 ROUTE APPROVED RESTRATION FORM 789-2161 ROUTE APPROVED ROUTE RESTRATION FORM 789-2161 ROUTE APPROVED ROUTE APPROVED RESTRATION FORM 789-2161 ROUTE APPROVED ROUTE APPROVED ROUTE APPROVED RESTRATION FORM 789-2161 ROUTE APPROVED ROUTE APPROVED ROUTE APPROVED ROUTE APPROVED RESTRATION FORM 789-2161 ROUTE APPROVED ROUTE APPROVED | | MISSOURI DEPARTMENT OF NATURAL RESOURC | | | | | | | | | ES FOR OFFICE USE ONLY | | | | | | | | | |
|--|---|--|------------|---------------|-------------|---------|-------|------------|--------|-------------|------------------------|--------|----------|--------|-----------|--------|----------|----------|--------------|-----|
| REGISTRATION REPORT NOTE: FOR MONITORING WELLS, USE MONITORING WELL PLUGGING REGISTRATION FORM 789-2161 OWNER INFORMATION NAME BUBINESS NAME (F APPLICABLE) FILEPHONE NAMER! WITH AREA CODE WALLING ACCRESS OTY BLATE DP CODE PRYSTICAL ACCRESS OF PROPERTY WHERE WELL IS LOCATED (F DIFFERENT THAN MALING ACCRESS) OTY BLOCATION INFORMATION Let OCUMPY LOD DOMESTIC Holp yield unconsolidated Holp yield unconsolidated Holp yield unconsolidated Hold dug Plot Note Holp yield unconsolidated Hold will make the property well in the property we | | | | | | | LU | GGIN | G | REF N | D . | | | ENT | EREC |) | | DATE RE | ECEIVED | |
| OWNER INFORMATION INME INJURES NAME (IF APPLICABLE) INTERPORE NAMER WITH AREA CODE INTERPORE NAMER WITH AREA CODE INTERPORT NAMER WITH AREA CODE INTERPO | AN 1 (SE2.1 | | | | | | | | | REGIS | TRAT | TION N | Ю. | CHE | CK N | 0. | | REVENU | IE NO. | |
| BUSINESS NAME (IF APPLICABLE) | | | | | | IITOR | RING | WELL | | ROUTE | | | | APP | ROVE | ED | | DATE | | |
| MALING ACCRESS MALING ACCRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFERENT THAN MALING ACCRESS) LOCATION INFORMATION LECTOR STATE DIFFORMATION COUNTY LOCATION INFORMATION COUNTY MELL CERTIFICATION OR REFERENCE NUMBER (IF NOWAR) DOMESTIC High yield unconsolidated High yield unconsolidated DEPTH OF THE WELL LENGTH OF CABNA DATE MILINGAL PROPERTY HIGH YIELD H | OWNER WEAR | | | | | | | | | | / | - | 1 | | | | | | | |
| MALING ADDRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFERENT THAN MALING ADDRESS) CITY DIFFERENT THAN MALING ADDRESS CITY CITY CITY | | IATION | | | | la | | | | | | | | | | | | | | |
| PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFERENT THAN MALING ADDRESS) | NAME | | | | | BUS | INES | S NAME (IF | APPU | CABLE) | | | | | TELEP | HONE N | UMBER | MITH ARE | A CODE | |
| LOCATION INFORMATION Lat. | MAILING ADDRESS | | | | | | | | | CITY | | | | | STATE | | ZIP COD | E | | |
| COUNTY | PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFERENT THAN MAILING ADDRESS) CITY | | | | | | | | | | | | | | | | | | | |
| COUNTY | LOCATION INFO | RMAT | ON | | | | | | | | | | | ١ | | | | | | |
| DATE CASING INFORMATION WELL CERTIFICATION OR REFERENCE NUMBER (IF KNOWN) WELL NUMBER WARRANCE NUMBER (IF ISSUED) | | | | | | COUNT | Y | | | | | г | | | | | | | | |
| PLUGGING INFORMATION WELL CERTIFICATION OR REFERENCE NUMBER (IF KNOWN) WELL NUMBER VARIANCE NUMBER (IF ISSUED) | Lat | | | | _• | | | | | | | l | | | | - 54 | _ | | 54 | |
| PLUGGING INFORMATION WELL CERTIFICATION OR REFERENCE NUMBER (IF KNOWN) WELL NUMBER VARIANCE NUMBER (IF ISSUED) | Long | | | | | | | | | | | Sectio | on | То | wnsh | io . | N R | ange | ПЕГ | ٦w |
| Domestic High yield unconsolidated High yield unconsolidated High yield hold dug Pick hole Pick water supply well (plugging letter required Pick water supply well (plugging letter required Pick water supply well (plugging letter required Pick water supply well refl is used) Pick water supply well required Pick water supply well refl is used Pick water supply well required Pick water supply well refl is used Pick water supply well reputed Pick water supply well refl is used Pick water supply well reputed Pick water supply well water district below: GROUT INFORMATION (GROUT MATERIAL MUST EXTEND AT LEAST 50 FEET BELOW CASING FOR DOMESTIC/MULTI-FAMILY WELLS) | | RMAT | ION | | _ ' | | | | | | | , | | | | | | | | |
| Hand dug | | | | | WEL | L CERT | TFICA | TION OR R | EFERE | NCE NUMBER | (IF K | NOWN) |) WE | ELL NU | MBER | W | ARIANCE | NUMBER | (IF ISSUED) | |
| Heat pump | Domestic | Hig | h yield | unconsolidate | d | | | | | | | | | | | | | | | |
| High yield bedrock Public water supply well (plugging letter required) DEPTH OF THE WELL LENGTH OF CASING CASING OR HOLE STATIC WATER LEVEL HEAT PUMP LOOPS fill is used Fill MARKER FIL FIL MARKER FIL MARKER FIL FIL MARKER F | Hand dug Pliot hole ORIGINAL DRILLER (E) | | | | | | | | MN) | | | | | | | DATEO | RIGINALI | YDRILLE | D (IF KNOWN | Ð |
| CASING OR HOLE STATIC WATER LEVEL HEAT PUMP LOOPS HEAT PUMP LOOPS LOOPS HEAT PUMP LOOPS HEAT PUMP LOOPS HEAT PUMP LOOPS HE | ☐ Heat pump | Mu | iti-family | y | | | | | | | | | | | | | | | | |
| COST SHARE | High yield bedrock Public water supply well (plugging letter required (plugging letter required) if fill is used) | | | | | TH OF 1 | THEW | ÆLL LEI | матн с | OF CASING | | | | | STATI | CWATE | RLEVEL | | | |
| SECAVATION Yes Yes No what depth Yes Yes No what depth Yes Yes No what depth Yes | COST SHARE | Yes 🗌 | No | | ┪ | FT. | | | FT. | FT. IN. | | | IN. | | | FT. | | | | |
| Yes | | UGGED | WELL R | EMOVED BY | PUM | | | | | | | | IRFACE | | TYPE OF | CASING | | | | |
| WELL ABANDONED DUE TO CONNECTION TO A MUNICIPALITY OR RURAL, WATER SUPPLY DISTRICT YES NO PITYSES, provide the name of the municipality or water district below: GROUT INFORMATION (GROUT MATERIAL MUST EXTEND AT LEAST 50 FEET BELOW CASING FOR DOMESTIC/MULTI-FAMILY WELLS) INSTALLATION METHOD MATERIAL, USED GROUT PLUGS AMOUNT USED Number of sacks Number of sacks Or cubic yards Pounds per sack Or cubic yards Pounds Or cubic yards Or c | OREXCAVATED | | | | | | | | | | | | | | | | | | | |
| RURAL WATER SUPPLY DISTRICT | | | □ No | | 🗆 | ID | | | | | | | | | | | J Finely | das | | |
| ROUT INFORMATION GROUT MATERIAL MUST EXTEND AT LEAST 50 FEET BELOW CASING FOR DOMESTIC/MULTI-FAMILY WELLS | | | | | ALITY OF | 6 | | *REMARK | SIREA | SON WELL W | 48 PL | UGGED |) | | | | | | | |
| INSTALLATION METHOD MATERIAL USED GROUT PLUGS Gravity | | | | | listrict be | elow: | | | | | | | | | | | | | | |
| INSTALLATION METHOD MATERIAL USED GROUT PLUGS Gravity | | | | | | | | | | | | | | | | | | | | |
| INSTALLATION METHOD MATERIAL USED GROUT PLUGS Gravity | CDOLIT INCODA | ATION | (CD) | OUT MATE | 31A1 M | HOTE | | I AT I | EAR | T CA CCCT | DEI | ow c | CARBIC | | | MESTI | cann: | TI EAM | II V WELL | 01 |
| Gravity Tremile Tremile Type I Chips Granular Reverse tremile | | | | | VIAL M | USIE | | | | I SU PEET | DCL | | | | LDUI | MESII | C/MUL | II-FAM | LT WELLS | 5) |
| Tremie pumped Reverse tremie Reverse tremie Type | | | | | | | | | | | _ | - 1 | | | ks | _ | | | | |
| Reverse tremie | 1— | Пуре | el | Chips | Gra | nular | 10. 1 | op depth | | | | | Pounds | per sa | ck | | | or cubic | vards | |
| FILL MATERIAL INFORMATION (FILL MATERIAL MAY NOT BE USED IN PLACE OF GROUT) MATERIAL USED AMOUNT USED DEPTH TO TOP OF FILL WELL CHLORINATED BEFORE PLUGGING Galions Pounds Pounds | | □ Турс | e III | Pelets | Slu | пу | | | | Bottom de | pth_ | — I | | | | . – | | | | _ |
| Gravel Ag-line Tons Or Gallons | _ | INFOR | MATK | ON (FILL) | MATER | MAL N | _ | | _ | D IN PLAC | E OF | FGRO | OUT) | | | | | | | |
| Gravel Ag-lime Tons Gravel Ag-lime Tons Gravel Tons Gr | MATERIAL USED | | | AMOUNT USE | 0 | | | | | FFILL | | | | | MOUN | T USED | FOR CHL | ORINATIO | N N | _ |
| Sand Other Cubic yards FT. No Tablets | Gravel Ag-lime | | | Tons | _ | | - 1 | FROM SUR | FACE | | | | LUGGING | | Gal | ions | | Por | unds | |
| I hereby certify that the well herein described was plugged in accordance with Department of Natural Resources requirements. (All fields must be completed but only one signature is required.) PRIMARY CONTRACTOR OR WELL OWNER (WELL OWNER MAY ONLY PLUG DOMESTIC OR HAND DUG WELLS) PERMIT NUMBER DATE WELL OR PUMP INSTALLATION CONTRACTOR DATE | Sand Other | | <u> </u> | - | ds | | - 1 | | | FT. | I = | | | - | - Птав | iets | | _ | | _ |
| PRIMARY CONTRACTOR OR WELL OWNER (WELL OWNER MAY ONLY PLUG DOMESTIC OR HAND DUG WELLS) PERMIT NUMBER DATE WELL OR PUMP INSTALLATION CONTRACTOR PERMIT NUMBER DATE | I hereby certify the must be complete | at the w | vell he | rein descri | bed wa | s plu | gge | d in acc | orda | | | | nt of Na | | | | | iremen | ts. (All fie | lds |
| | | | | | | | | OMESTIC | OR HAN | ND DUG WELL | 8) | | PE | RMIT N | UMBE | R | DATE | | | |
| | | | | | | | | | | | | | | | | _ | | | | |
| WELL OR PUMP INSTALLATION CONTRACTOR APPRENTICE (IF APPLICABLE) PERMIT NUMBER DATE | WELL OR PUMP INSTALL | WELL OR PUMP INSTALLATION CONTRACTOR | | | | | | | | | PERMIT NUMBER DATE | | | 1 | | | | | | |
| | WELL OR PUMP INSTALL | ATION CO | ONTRACT | TOR APPRENT | ICE (IF A | PPLICA | BLE) | | | | | | PE | RMIT N | UMBE | R | DATE | | | |

MO 780-1603 (08-19)

FEES - \$50 FOR PUBLIC WATER SUPPLY, HIGH YIELD AND HEAT PUMP WELLS ONLY. ALL WELL TYPES ARE SUBJECT TO LATE FEE SCHEDULE.
SEND COMPLETED FORM TO: MISSOURE DEPARTMENT OF NATURAL RESOURCES, MISSOURE SOLLOGICAL SURVEY, WELL INSTALLATION SECTION,
PO BOX 250, ROLLA, MO 65402 PHONE: 573-363-185 FAX: 573-368-217 EMAIL: welldriter@der.mo.gov
RECORD (AND FEE) MAY BE SUBMITTED ONLINE: dnr.mo.govinsownits

Form 20: <u>780-1603</u>

| MISSOURI DEPARTMENT OF NATURAL GEOLOGICAL SURVEY PROGRAM INVESTIGATION REQUEST | RESOURCES | OFFICE USE ON DATE RECEIVED | LY | DATE ASSIGNED |
|--|---------------------|--------------------------------|-------------|-----------------------|
| 6 8 | | ASSIGNED TO | | |
| WELL OWNER INFORMATION | | | | |
| NAME | | | TELEPHONE I | NUMBER WITH AREA CODE |
| MAILING ADDRESS | CITY | | STATE | ZIP CODE |
| PHYSICAL ADDRESS OF PROPERTY WHERE WELL IS LOCATED (IF DIFFEREN | NT THAN MAILING ADD | RESS) | CITY | |
| PERSON REQUESTING INVESTIGATION (If different | than owner) | | • | |
| NAME | | | TELEPHONE I | NUMBER WITH AREA CODE |
| MAILING ADDRESS | CITY | | STATE | ZIP CODE |
| Is the well owner aware of this investigation request? | YES [| NO | • | |
| WELL LOCATION INFORMATION | | | | |
| Latitude* Long | gitude | <u> </u> | | OUNTY |
| | Section | Township | N R | ange 🗆 E 🖂 |
| CONTRACTOR INFORMATION (If known) | _ | | | |
| NAME | | | PERMIT NUME | BER |
| BUSINESS NAME | | | TELEPHONE N | NUMBER WITH AREA CODE |
| GENERAL INFORMATION | | | | |
| Date well was drilled: | Date | problem began: | | |
| Did you receive a copy of the well certification form from | the contractor? | ☐ Yes ☐ No | | |
| Have you contacted the well or pump contractor on this | issue? Yes | □No | | |
| Have they attempted to remedy the situation? | □ No | | | |
| Is there an abandoned well(s) on the property? | . □ No Is the | well plugged? | Yes No | |
| | | | | |
| Number of holes drilled | Were | any left open? | Yes 🗌 No | |
| Number of holes drilled | Were | any left open? | Yes No | |
| | | any left open? 📋 | Yes No | |

MO 750-1616 (01-16) MAIL COMPLETED FORM TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2165 FAX: 573-368-217 EMAIL: webstillers@dm.mo.cov.

Please attach a copy of the invoice (or bill) you received from the driller and pump installer.

Include a copy of the certification form from the driller and/or pump installer, if available.

On the opposite side of this form, please make a written statement detailing the problems you are experiencing.

| | | | | URAL RESOUR | CES | | | | | |
|--------------------------------|------------------|-----------------|---------------|--|---------|-------------------------|------------|-----------------|----------------|------------------|
| | GEOLOGICA | | | LOCATION | | | | - [| | E USE ONLY |
| <u>&</u> | WAILK II | ACL-INJ | LCTION | LOCATION | | | | | INJECTION PO | NT NUMBER |
| INJECTION | POINT LOCA | TION | | | | | | · | | |
| INJECTION POINT | DESCRIPTION | | | | | | | COUNTY | | |
| 14 14 14 SECTION | % % SECTION | % SECTION | SECTION | TOWNSHIP | RANG | ne . | | QUADRANGLE NA | ue. | |
| AAAGCOION | A A GEOTION | A SECTION | SECTION | NORTH | | — □EAST □W | - 1 | and out of the | | |
| COORDINATE OR COMMENTS AREA | WRITTEN LOCATION | ON IF LEGAL DES | CRIPTION IS U | NAVAILABLE (USE | _ | PURPOSE OF TRACE | | | ELEVATION I | N FEET |
| LATITUDE: | | LONGITI | UDE: | | | | | | | |
| TYPE OF INJECTION | ON POINT | | | | | | | | | |
| | | ☐ LAKE/POND | SINKH | OLE SEWER | | GOON STREAM | OTHE | | | |
| PROPERTY OWNE | ER'S NAME | | | | | | | TELEPHONE V | WITH AREA COD | Œ |
| OWNER'S MAILING | G ADDRESS | | | | CITY | | | STATE | ZIP CODE | |
| | | | | | | | | | | |
| | IT'S INFORM | | | | | | | | | |
| REGISTRANT'S N | AME AND COMPAN | Y | | | | | | TELEPHONE V | WITH AREA COD | Œ |
| REGISTRANT'S MA | AILING ADDRESS | | | | CITY | | | STATE | ZIP CODE | |
| | | | | | | | | | | |
| INJECTION | INFORMATIO | ON | | | | | | · | | |
| | | | PROPOSE | D ACTUAL | | | | | | |
| INJECTION DAT | TE | | | | | INJECTION TIME: | [| AM. 🗆 P.M. | | |
| TRACER INJECT | TED | - | | | | | | | | |
| TRACER AMOU | NT | | | | | NUMBER OF MONITO | ORING PO | NNTS: | | |
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| FLOW CONDITION | 8 AT INJECTION | | | | | | | | | |
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| AKETOH OD | LIAD MIST | DE AUDINE | TED MITT | PEOUEST | | | | | | |
| A SKETCH MAP OF | | TOPOGRAPHIC I | WAP MUST SH | H REQUEST! OW THE FOLLOWING: I MP. | NJECTIC | ON POINT, MONITORING PO | OINTS, ALL | KNOWN SPRINGS | , SINKHOLES, C | CAVES, MINES AND |
| COMMENTS | | | | | | | | | | |
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| I HEREBY CERTIF | Y THAT THE ABOV | E INFORMATION | IS ACCURATE | AND COMPLETE TO T | HE BES | T OF MY KNOWLEDGE | | | | |
| EMAIL ADDRESS | (OPTIONAL) | | | | | | | | | |
| | | | | | | | | | | |
| REGISTRANT'S SI | IGNATURE | | | | | | MISSOL | URI WATER TRACE | R DATE | |

PO BOX 250, ROLLA, MO 65402-0250 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: geology section

Form 22: <u>780-1693</u>

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MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM

MONITORING POINT WATER TRACE INFORMATION SHEET

| HONE | | DOIN | T 1 00 | ATION | | | | | | | | | | | | |
|----------------------|-----------|-----------|----------|-----------|-----------------------------|--------------------------|---------------------|-----------------|--------------------------|----------|--------------------|------------------------|--------|------------|-----------|-----------------------------------|
| MONITORI MONITORI | | | | | | | | | | | | | _ | COUNTY | | |
| a control control | a roll | THANK C | n beside | anii on | | | | | | | | | | COUNTY | | |
| % % % SEC | TION | % % SEC | TION | % SECTION | ON SECTIO | ON TOWN | ISHIP | | RANGE | | | | QUAD | RANGLE NA | ME | |
| | | | | | | | NC | RTH | | | | WEST | | | | |
| WRITTENL | OCATION | N IF LEGA | L DESCR | IPTION IS | UNAVAILABLI | E | | | | | | ATITUDE | | | LONGITU | DE |
| ACCESS D | ESCRIPT | ION (OPT | IONAL) | | | | | | | | | | | | ELEVATION | ON IN FEET |
| TYPE OF M | ONUTOR | wo power | | | | | | | | | | | | | | |
| | | | | POND | SINKHO | LE SE | VER [| LAGO | ON 🗆 8 | TREAM | □от | HER | | | | |
| BACKGROU | | | | | | | | | | | | | | | | |
| PROPERTY | OWNER | 'S NAME | | | | | | | | | | | т | ELEPHONE ! | NUMBERV | WITH AREA CODE |
| OWNER'S | MAILING | ADDRESS | 1 | | | | | cn | Y | | | | 8 | TATE | ZIP CO | OE . |
| | | | | | | | | | | | | | | | | |
| REGIST | | | | TION | | | | | | | | | | | | |
| REGISTRA | NT'S NAM | ME AND C | OMPANY | | | | | | | | | | т | ELEPHONE | NUMBERV | WITH AREA CODE |
| REGISTRA | NT'S MAI | LING ADD | RESS | | | | | сп | Y | | | | 8' | TATE | ZIP CO | OE SO |
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| FLOW C | SAM | PLER | D = | PLER | P - Pool COLLECTED | | FLUOR | ESCEIN | RHODAN | High Fic | | N - Nor | mai ri | OTHER | | ANALYSIS |
| NUMBER | PLACE | TIME | DATE | TIME | BY | BY | | OVERY CARBON | RECO WATER (| | | CARBON | WATER | R CARBON | COTTON | METHOD/FLOW CONDITIONS/REMARKS |
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| MO 780-180 | 14 (9-18) | SEN | D COMPL | ETED CO | PY TO: DEPA OX 250, ROLL | RTMENT OF A, NO 65402 | NATURAL -0250 PH | RESOU | RCES, MISS 3-368-2100 | FAX: 57 | OLOGIC 3-368-21 | AL SURVEY, 11 EMAIL | ENVIRO | ONMENTAL O | GEOLOGY | SECTION, |

Form 23: <u>780-1694</u>

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MISSOURI DEPARTMENT OF NATURAL RESOURCES MISSOURI GEOLOGICAL SURVEY WATER TRACER REGISTRATION APPLICATION

| FOR | OFFI | Œ | USE | ONLY | |
|--------|---------|----|------|------|---|
| REGIS1 | TRATION | MU | MRER | | • |

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|---|------------------------------|-------------|-----------------------|--|--|--|--|--|--|--|
| APPLICANT'S INFORMATION | | | | | | | | | | |
| APPLICANT'S NAME AND COMPANY | | TELEPHONE N | IUMBER WITH AREA CODE | | | | | | | |
| MAILING ADDRESS | СПУ | STATE | ZIP CODE | | | | | | | |
| EMAIL ADDRESS (OPTIONAL) | | | | | | | | | | |
| GENERAL INFORMATION | | | | | | | | | | |
| DESCRIPTION OF GENERAL TYPE(S) AND PURPOSE OF TRACE(S) TO BE UNDERTAINED. | ŒN | | | | | | | | | |
| LIST OF TRACERS WHICH MAY BE USED | | | | | | | | | | |
| IF VARIANCE FROM REGISTRATION IS DESIRED, PLEASE GIVE REASONS | | | | | | | | | | |
| COMMENTS | | | | | | | | | | |
| I HEREBY CERTIFY THAT THE ABOVE INFORMATION IS ACCURATE AND COMPLETE | TO THE BEST OF MY KNOWLEDGE. | | | | | | | | | |
| APPLICANT'S SIGNATURE | | DATE | | | | | | | | |

MO 780-1895 (9-18) SEND COMPLETED COPY TO: DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, ENVIRONMENTAL GEOLOGY SECTION, PO BOX 250, ROLLA, MO 65402-4250 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: gapag@dar.mo.gov

Form 24: <u>780-1695</u>

| □ Miccorio | DADTMENT OF MATUR | AL DECOU | DOEC | | | | | |
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| | L SURVEY PROGRAM LL INVENTORY FORM | | | INVENTORY N | UMBER | | | |
| WELL OWNER INFORMATIO | N (*REQUIRED) | | | | | | | |
| *NAME (COMPANY NAME IF APPLICABLE) | | | | EMAIL ADDRES | 8 | | | |
| *MAILING ADDRESS | | *CITY | | | *STATE | *ZIP CODE | | |
| COUNTY | *TELEPHONE NUMBER WITH AREA CODE | CELLPHO | NE WITH AREA | CODE | FAX NUMBER | WITH AREA CODE | | |
| CONTACT INFORMATION (*) | REQUIRED) | | | | | | | |
| *FIRST NAME | LAST NAME | TELEPHO | NE NUMBER WIT | TH AREA CODE | CELL PHONE V | WITH AREA CODE | | |
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| FACILITY INFORMATION (*R | EQUIRED) | | | | | | | |
| *FACILITY NAME | | *FACILITY | OPERATOR CO | NTACT NAME (IF D | FFERENT FROM | COMPANY CONTACT) | | |
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| *OWNERSHIP TYPE | | PERMIT NUMBER | | | | | | |
| ☐ Private ☐ Public | ☐ Other | | | | | | | |
| WELL INFORMATION (*REQ | | | | | | | | |
| COUNTY | *STATUS DATE (AN U SUBMITTED WHEN S | PDATED FORM MUS TATUS CHANGES) | | | | | | |
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| - . | ng fluids) Aquifer recharge we osal well Ground source hea Industrial drainage thas potential to be used by more | t pump (retum o well Mine | backfill | on well | WELL ID NO | UMBER | | |
| Other WELL LOCATION | | | ELEVATION | | TOTAL DEF | PTH (VERTICAL WELLS ONLY) | | |
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| Sec Twp N Rng | E W Land Grant | # | | | | | | |
| 7.5 MINUTE QUADRANGLE | | | informatio | n if multiple w | ells are pres | table of wells and well sent at the facility. For dnr.mo.gov/gisutils | | |
| ADDITIONAL COMMENTS | | | | | | | | |

MO 780-1774 (5-16) SEND COMPLETED FORM ALONG WITH MAP OR TABLE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, PO BOX 250, ROLLA, MO 65402 PHONE: 573-388-2100 FAX: 573-368-2111 EMAIL: galbook/60dnr.mo.pox

| MISSO ميم | URI DEPARTMENT OF | NATURAL RESO | URCES | 3 - | | | | | |
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| | OGICAL SURVEY PRO | | | | OR OFFI | | ONLY | | |
| Ò OIL A | IND GAS WELL BO | OND | | ВС | IND NUMBI | ER | | DATE RECEI | /ED |
| OBLIGOR (WELL O | OWNER/OPERATOR) IN | NFORMATION | | | | | | | |
| NAME OF COMPANY, ORGA | NIZATION, OR INDIVIDUAL THAT | DRILLS, MAINTAINS, OPE | RATES, OF | R CONTROLS O | L AND GAS | S WELLS IN | MISSOURI | OPERATOR | ICENSE NUMBER |
| MAILING ADDRESS | | | | CITY | | | | STATE | ZIP CODE |
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| 2,001'-5,000' | \$4,400 | | 1 | 801'-1, | 500' | \$25, | 000 | 10 | |
| >5,000' | \$5,500 plus \$2 per foot b | eyond 5,001 feet |] | | | | | | _ |
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| ☐ Individual Well Bon | d Production Unit (lea | sse or surface unit na | me) | | | | | | |
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| ☐ Blanket Well Bond | Less than 800 | depth or | □ 8 | 01' to 1500' d | epth | | | | |
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| CERTIFICATION | | | | • | | | | | |
| I, the undersigned, cer | tify that: | | | | | | | | |
| I am authort | zed to act on behalf of the o | | | | | | | | d d b11-# |
| | Information on this form ha this bond is not transferral | | ne and | is true, cone | a and co | mpiete i | o me best | or my knowie | oge and belief. |
| I understand | that if information on this f | orm changes it must i | | | | | | | |
| I acknowledge | ge this is a performance bo I this bond shall remain in fi | nd and the required b | iond am | ount is payat or of release | ole to the | state of | Missouri. tate genin | nict or it is for | falted due to non- |
| | with the provisions of Chap | | | | | | | | |
| PRINT NAME | | TITLE | | | | COMPA | NY | | |
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| FOR OFFICE USE | ONLY | | | | | | | | |
| APPROVED BY | UII-I | | | | | | D | ATE | |
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| APPROVAL OF RELEASE/FO | | BOND NUMBER | | BOND A | MOUNT | | P | LEDGED FAI NU | MBER |
| Financial Action Re | elease 🗌 Forfelture | I | | - 1 | | | | | |
| | ORFEIT THIS BOND IS HEREBY O | RANTED, APPROVED | BY | | | | | | |
| AUTHORITY TO RELEASE/F THIS | YOF YEAR | RANTED, APPROVED I | | | | | | | |

Form 26: <u>780-1777</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS WELL FINANCIAL ASSURANCE INSTRUMENT CERTIFICATION

| OBLIGOR (WELL | OWNER/OPER | ATOR |) INFORM | IATIO | ON | | | | | | | | | | | |
|---|--|----------|---------------|----------|----------------|-----------------------|-----------|------|-----------|----------------|-------------|------------|-------|----------|--------------------|---------|
| NAME OF COMPANY, ORG | ANIZATION, OR INDIV | DUAL TH | KAT DRILLS, N | MAINTAI | NS, OPERATE: | s, or contr | OLS O | HL A | ND GAS V | VEL | LS IN MISSO | JRI OF | ERA | TOR LICE | NSE NUMBE | R |
| MAILING ADDRESS | | | | | | CITY | | | | | | ST | ATE | 21 | PCODE | |
| PRIMARY CONTACT NAME | | | TITLE | | | PRIMARY P | HONE E | NU | MBER WIT | тн | EMAIL ADD | RESS | | | | |
| FINANCIAL INSTI | | MATIC | ON (TO BI | E CO | MPLETED | BY THE | INST | П | UTION | IS | SUING T | HE FIN | AN | CIAL A | ASSURA | NCE |
| FINANCIAL INSTITUTION N | | | | FINANC | CIAL INSTITUTI | ON MAILING | ADDRE | FRR | | T _C | iTY | | 8 | TATE | ZIP CODE | |
| | | | | | | | | | | | | | | | L. 5551 | |
| CONTACT NAME | | | TITLE | | | PRIMARY P AREA COD | | NU | MBER WIT | TH | EMAIL ADD | RESS | | | | |
| FAI INFORMATIO LOCATED ON TH | | | | E ISS | UING INS | TITUTION | I. CC | ONI | DITION | IS | AND REG | QUIRE | MEN | ITS FO | OR FAIS | ARE |
| Original FAI Subm | nission | Amendr | ment to ext | sting F | FAI | | | | | | | | | | | |
| Certificate of Deposit (CD) | ISSUED TO | | | | NUMBER | | | | ISSUE DA | ATE | | VALUE | | | AUTOMAT RENEWAS | LE |
| ☐ Irrevocable Surety Bond (SB) | IRREVOCABLE | NUMBER | R | | <u> </u> | | ISSU | E D | ATE | | | MAXIMU | M VAL | .UE | III ies | _ NO |
| ☐ Irrevocable Letter | Yes No | ESTABLIS | SHED TO SEC | URE TH | HIS LOC Y | es 🗌 No | STAT | ΈO | F MISSOU | JRI | BENEFICIARY | OFLOC | AU | TOMATIC | ALLY RENEV | WABLE |
| of Credit (LOC) | IF YES, AMOUNT IN E | SCROW | ACCOUNT \$ | | | | | | □ N | | | | | Yes | □ No | |
| | NUMBER | | | | ISSUE DATE | | | EXP | PRATION (| DAT | E | VALUE | | | | |
| FAI OBLIGOR PLI | DGE CERTIFIC | CATIO | N | | , | | | | | | | | | | | |
| I, the undersigned, certif | | | | | | | | | | | | | | | | |
| and complete to the bes FAI may be forfelted, wit Rules 10 CSR 50. I have obligor's performance by | hout my consent, du read and agree to t | e to non | compliance (| with the | provisions of | Chapter 25 | 9, RSI | Μo, | and the I | Mis | souri Code | of State R | egul | ations O | ll and Gas (| council |
| OBLIGOR SIGNATURE (AL | | | | OBLIGO | OR NAME (PRI | NT) | | | | | | TITLE | | | | |
| NOTARY PUBLIC EMBOSS SEAL | ER OR RUBBER STAM | P SUI | BSCRIBED AN | ND SWO | ORN BEFORE M | IE, ON THIS | | | DAY OF | F | • | IN | THE | YEAR | | |
| | | STA | ATE | | | COUNTY | | | | | | MY COMM | 8810 | N EXPIRE | ES | |
| | | NO | TARY PUBLIC | SIGNA | TURE | | | | | | | | | | | |
| | | NO | TARY PUBLIC | NAME | (Print) | | | | | | | | | | | |
| FAI FINANCIAL IN | ISTITUTION PL | EDGE | CERTIFI | CATI | ON | | | | | | | | | | | |
| I, the undersigned, certifi accurate. I agree to ensi- requirements on the bac | ure this FAI remains | | | | | | | | | | | | | | | |
| AUTHORIZED AGENT SIGN | | | | AUTHO | RIZED AGENT | NAME (PRIN | ŋ | | | | | TITLE | | | | |
| | | | | | | | | | | | | | | | | |
| NOTARY PUBLIC EMBOSS SEAL | ER OR RUBBER STAM | P SUI | BSCRIBED AN | ND SWO | RN BEFORE M | IE, ON THIS | | | DAY OF | F | | IN | THE | YEAR | | |
| | | STA | ATE | | | COUNTY | | | | | | MY COMM | 8810 | N EXPIRE | ES | |
| | | NO | TARY PUBLIC | SIGNA | TURE | | | | | | | | | | | |
| | | NO | TARY PUBLIC | NAME | (PRINT) | | | | | | | | | | | |
| FOR OFFICE USE | ONLY | | | | | | | | | | | | | | | |
| APPROVED BY | | | | | | | | | | | | DATE | | | | |
| | | | | | | | | | | | | | | | | |

SEND ORIGINAL COMPLETED FORM AND ORIGINAL FINANCIAL ASSURANCE INSTRUMENT TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGICAL SURVEY PROGRAM, PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: Olandgas@dnr.mo.gov

Form 27: <u>780-1778</u>

| ⊕‱ | | I DEPARTMENT | | | ŒS | DATE RE | CEIVED | | | |
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| OWNER ADDRE | :88 | | CITY | | | STATE | | ZIP CODE | | |
| ADDRESS OF V | WELL SITE IF DI | FFERENT | | CITY | | | STATE | | ZIP CODE | |
| DRILLER IF KN | OWN OR WELL | REFERENCE NUMBER | CASING SE | AL | STATIC | WATER | WELL DE | PTH | WELL USE | |
| | | | ☐ WELL 8 | | | FT. | | FT. | | |
| GPS LOCATION | OF WELL (RE | QUIRED) | PITLESS | | PUMP | RATE | | DEPT | H PUMP SET | |
| Lat. | | · . · . | TURBIN | E | | | GPM | | | FT. |
| Long. | | | | | PUMP | NSTALLA | TION DAT | Έ | | |
| County | | | REPLACEM YES | | | | | | | |
| PUMP INSTALL | ER CONTRACT | OR | | PERMI | T NUMBE | R | DATE | | | |
| PUMP INSTALL | ER CONTRACT | OR APPRENTICE | | | PERMI | T NUMBE | R | DATE | | |

MO 780-1900 (03/19) SEND COMPLETED FORM TO: WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 65402 573-368-2165

| ⊕ <u>&</u> { | ≊ G ໄ | MISSOURI DEPARTMENT OF NATURAL RESOURCES SECLOGICAL SURVEY PROGRAM PUBLIC WELL, HIGH YIELD, OPEN LOOP MEAT PUMP REPORT APPROVED DATE ENTERED PWS ID ICHECK NO. | | | | | | | | | RT. NO | FOR O |)FFI | | E RECEN | | | |
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MO 780-1901 (08-19) MAIL COMPLETED FORM ALONG WITH \$80 CERTIFICATION FEE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 68402 PHONE: 573-368-2105 FAX: 573-368-2317 EMAIL: welldrifters@dn.mo.gov

| () 282 | | | PARTMENT | | | RESC | DURCES | Ī | FOR C | FFICE (| JSE ONLY | <u> </u> | | | |
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| PROPERTY NAME | OF WELL LOCA | TION | | PHYS | SICAL ADDRE | 88 OF V | WELL LOCATION | ON | | | | CITY | | | WELL NUMBER |
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| CASING AN | | INFO | DRMATION | | | | | | | | | | | | |
| LENGTH | OUTSIDE DIAM | | WEIGHT (LB), 8 | DR#. | BOREHOLE | | MATERIAL | | | DRIVE | SHOE USED | PACKER (| ON PVC | CASING (CI | OOSE ONLY ONE) |
| FT. | | IN. | SCH# | | DIAMETER | IN. | STEEL PLASTIC | | NCRETE ERGLAS | | ONLY) | □ NONE | | ☐ INVERTE | DBELL |
| SURFACE CASING | (IF USED) | SUF | RFACE CASING | | SCREEN L | ENGTH | UNCONSOLI | | | | OT SIZE / PAC | KER DEPTH | н | | |
| LENGTH OUTSIDE DIAMET | | | OUTED YES #OF SACI | K8 | MATERIAL | WELLS | | FT. | | | | | | | |
| CASING GR | OUT INFO | _ | | | | | | | • | | | | | | |
| POSITION OF SEA | L TYPE (CHO | OSE ON | NE) | | NUMBER | OF SA | CKS USED | | | | NSTALLATION | | | | LING SUSPENDED |
| ☐ BOTTOM ☐ TOP ☐ FULL LENGTH | CEMENT TYPE II | | ITONITE CHIPS GRAPELLETS GSLU | | | BACK | _ | | . 🖺 | PRESSURE | DISPLACEMENT THROUGH CA | T TR | PEN HO REMIE | | |
| LINER INFO | RMATION | | | | | | | | | | | | | | |
| LENGTH | OUTSIDE DIA | METER | | | WEIGHT (LE | s), SDR# | USE (CHO | | | | DEPT | тн то тор | OF LINE | R PERFO | RATED OR SCREEN |
| FT. | 1 | IN. | ☐ STEEL ☐ PLASTIC | | | | □ PREVE | NT RUS | ST. | | ON IO | | | T. FROM | то |
| LINER GRO | J UT INFORM | | | | 1 | | In sext o | JOT ON | DESITOR | ILE CONDITI | ONS | | | | |
| POSITION OF SEA | | | | | | NUMBE | R OF | | | METHOD C | F INSTALLATION | ON | DEPT | H PACKERS | SET |
| ☐ FULL LENGTH ☐ BOTTOM | CEMENT TYPE | | BENTONITE CHIPS | □ GRA | ANULAR | SACKS LBS PE | R SACK _ | | _ | GRAVIT | | | | , | / FT. |
| DEPTH | | | PELLETS | | LOCATION O | F WELL | OR PUMP | | | U IREME | COUNTY | | ╆ | ABANDONE | WELL ON SITE |
| FROM TO | FOR | MATIO | N DESCRIPTION | | AT. | | | | | | l | | | YES | NO |
| | | | | L | LONG. | | | | | | | | | WAS THE WI | ELL PLUGGED NO |
| | | | | | | , | 4 | _% | | % | DRILL AREA ONLY) | (OFFICE US | SE | WELL COMP | LETION DATE |
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| | | | | i | | | | | | | PUMP IN | FORMA | TION | ı | |
| | | | | • | WELL YIELD | | | | | | PUMP INSTA | LLATION DA | ATE | RE | PLACEMENT PUMP |
| | | | | | STATIC WATE | ER LEVE | L | | | GPM | DEPTH PUMF | PSET | C4 | SING SEAL | YES NO |
| | | | | ľ | - And HAII | - LEVE | | | | FT. | Ser In roll | FT. | | WELL SEAL | |
| | | | | t | DEPTH TO FI | RST GR | OUNDWATER | | | _ | PUMP RATE | | - 1_ | PITLESS AD | APTER |
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| | | | | ļ | WELL INSTAL | LATION | CONTRACTO | R APPS | RENTICE | OF APPLICA | ABLE) | | PERM | IT NUMBER | DATE |
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| DEPTH TO BEDRO | | | | $\overline{}$ | | | | | | | | | | | |
| TOTAL DEPTH | | | FT. FT. TED FORM ALON ISTALLATION SE | | | | CONTRACTO | | | | | | | IT NUMBER | |

Form 30: <u>780-1902</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM FINANCIAL ASSURANCE INSTRUMENT CERTIFICATION

| Deposit (CD) | | | | | | | | | | | | | |
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| FAI OBLIGOR PLEDGE CERTIFICATION I, the undersigned, certify I am authorized to act as an agent for the submission of this FAI. I confirm the information on this form has been reviewed by me and is true, co and complete to the best of my knowledge. I agree to ensure this FAI remains in full force and effect unit a letter of release is issued by the state of Missouri. I understand this FAI may be forfeted, without my consent, due to noncompliance with the provisions of Chapter 256, RSMo, and the Missouri Well Construction Rules 10 CSR 23. In read and agree to the conditions and requirements on the back of this form. I hereby inevocably piedge the above described FAI to secure the obligor's performance bon OBLIGOR NAME (PRINT) NOTARY PUBLIC EMBOSSER OR RUBBER STAMP SUBSCRIBED AND SWORN BEFORE ME, ON THIS STATE COUNTY MY COMMISSION EXPIRES FAI FINANCIAL INSTITUTION PLEDGE CERTIFICATION I, the undersigned, certify I am authorized to act as an agent for the financial institution issuing this FAI. I certify the FAI and financial institution information on this form is accurate. I agree to ensure this FAI remains in full force and effect unit a letter of release is issued by the state of Missouri. I have read and agree to the conditions and requirements on the back of this form. AUTHORIZED AGENT SIGNATURE MOTARY PUBLIC EMBOSSER OR RUBBER STAMP SUBSCRIBED AND SWORN BEFORE ME, ON THIS DAY OF IN THE NOTARY PUBLIC EMBOSSER OR RUBBER STAMP SUBSCRIBED AND SWORN BEFORE ME, ON THIS DAY OF IN THE YEAR STATE COUNTY MY COMMISSION EXPIRES FOR OFFICE USE ONLY FOR OFFICE USE ONLY | | | ABLISHED TO SE | CURE TH | iisLoc 🗆 Ye | s 🗌 No | STATE | OF MISSOU | RI BENEFICIAR | Y OF LOC | AUTOM | ATICA | LLY RENEWABLE |
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| APPROVED BY DATE | FOR OFFICE USE | ONLY | | | | | | | | | | | |
| | APPROVED BY | | | | | | | | | DATE | | | |
| MO 780-2054 (11-18) SEND ORIGINAL COMPLETED FORM AND ORIGINAL FINANCIAL ASSURANCE INSTRUMENT TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, WELL INISTALLATION SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2165 FAX: 573-368-2317 EMAIL: weldfrillengdur.mo.go. | MO 780-2054 (11-18) | SEND ORIGINAL COM MIS | PLETED FORM AN SOURI GEOLOGIC PHONE: 6 | CAL SUR | INAL FINANCIAL | ASSURANCE TALLATION | E INST | RUMENT TO: N, PO BOX 2 | MISSOURI DE 50, ROLLA, MO | PARTMENT 0 65402 | OF NATU | JRAL | RESOURCES, |

Form 31: <u>780-2054</u>

| <u>→</u> | MISSOURI DEPARTME GEOLOGICAL SURVE LOST OR DESTRO | Y PROGRAM | | REF NO. | ONLY | | ECEIVED |
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| | | | | STATUS Verified | Case #_ | | DATE |
| | ID SITE INFORMATION | | | | | | |
| PROPERTY OWN | IER NAME WHERE WELL IS LOCA | TED | CONTACT PERSON | FOR PROPERTY OW | NER | PRIMARY PHO | NE NUMBER WITH AREA CODE |
| | IER MAILING ADDRESS | | CITY | | | STATE | ZIP CODE |
| PHYSICAL ADDR | ESS OF PROPERTY WHERE WEL | L(S) IS LOCATED | CITY | | NAME OF SI | TE OR CLEANUF | PROJECT |
| LOCATION OF W | ELL SITE | ·• | COUNTY | | DNR/EPA PR NUMBER (IF | OJECT NUMBER APPLICABLE) | R OR REGULATORY SITE ID |
| Longitude | · | · | | | | | |
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| WELL NUMBER | CERTIFICATION OR REFERENCE NUMBER | DATE WELL WAS CONSTRUCTED | OR APPRO | NATE OF KNOW XIMATE WELL ATION | NAME | | NUMBER OF THE WELL NTRACTOR (IF KNOWN) |
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| | f more space is needed to r n the space below, please s oulding was constructed, et Describe what attempts wer Attach a site map indicating | state the reason(s) th c. e made to locate and | e well(s) cannot b I/or plug the well(s | e located and/or i) listed above. | age to this for plugged. For | n. example, we | ll was paved over, new |
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| a thorough se location. By a | t that the well(s) described sarch and investigation. Thi supplying this information, I nsible for such acts. | is report is being prov | ided to notify the | department of na | atural resource | s of the exist | ence of lost well(s) at this |
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| PRINTED NAME | | PRIMA | RY PHONE NUMBER | MTH AREA CODE E | MAIL ADDRESS | | |

MO 780-2158 (01-18) SEND COMPLETED FORM TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, WELL INSTALLATION SECTION, PO BOX 259, ROLLA, MO 65492 PHONE: 673-388-2165 FAX: 673-388-217 EMAIL: welldrillers@chv.mo.gov

Form 32: <u>780-2158</u>

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| OWNER AND | | | | | | | | | | | | | | | | |
| PROPERTY OWNER | NAME WHE | RE WELL | . IIS LOCATED | | | | | | | | PRIMA | RY PHONE NU | JMBER V | MITHA | EA CODE | : |
| PROPERTY OWNER | MAILING AD | ORESS | | | | CIT | Υ | | | | STATE | | ZIP CO | DE | | |
| PHYSICAL ADDRESS | OF PROPE | RTY WH | ERE WELL IS I | OCATED | | | | | | | CITY | | | | | |
| NAME OF SITE, BUSI | AME OF SITE, BUSINESS, OR CLEANUP PROJECT DIREPA PROJECT NUMBER OR REGULATORY SITE ID NU | | | | | | | | | | (IF APP | LICABLE) | VARIAN | ICE NUI | WBER (IF | (SSUED) |
| PRIMARY CONTRAC | RIMARY CONTRACTOR NAME (PLEASE PRINT) PERMIT NUMBER | | | | | | | | | | ply wit | 507(3), RSMo h all rules and lections 256.6 | d regula | tions p | romulgat | ontractors ted |
| LOCATION IN | FORMA | TION | | | | | | | | | | | | | | |
| Lettude | | | | COU | INTY | | | | | % | | <u>%</u> | | | _% | |
| Longitude | <u> </u> | | | : | | | | Section | | Town | nship . | N R | lange_ | | OE C | J w |
| MONITORING | WELL I | NFOR | MATION | | | | | | | | | | | | | |
| DATE WELL PLUGGE | D OF | RIGINALI | DRILLER (IF K | NOWN) | | | | DATE O | RIGINALI WN) | LYDRILL | ED | REFERENCE KNOWN) | NUMBE | R (IF | WELL NU | MBER |
| | l l | | | ore le | | k | | ļ | Incurs o | | | | larania | | | |
| | STATIC WAT LEVEL | ER I | LENGTH OF RI AND SCREEN | SER DI | ND SCREEN | | RISER AND SCREEN PLUGGED IN PLACE | | REMOV | R SAMP ED | LINGE | QUIPMENT | CASING | a REMO | VED | |
| ft. | | | | ft. | in. | ا | Yes No (Re | moved) | ☐ Yes | No | | I/A | DY | (es | No 🗆 l | WA. |
| TEMPORARY | MONITO | DRING | WELL/S | OIL BO | RING/GEO | TEC | HNICAL BOR | ING II | NFOR | MATIC | N | | | | | |
| Quantity | ' | | of Well or ing (ft.) | | Diameter (in.) | | Total Depth (L of All Wells | | | тотя | AL NUN | IBER OF WELL | LS/BORI | NGS | | |
| | | | | | | + | | | | AVE | AGE (| DEPTH OF ALL | WELLS | BORING | 38 | |
| | | | | | | \top | | | | 1_ | | | | | | |
| | | | | | | | | | | | FIRST PLUG | FWELL/BORIN | | ATE LAS | GGED | BORING |
| | | | | | | | | | | | | | ľ | | | |
| | | | | | | Т | | | | | | | | | | |
| TEST HOLE IN | | | | | | | | | | | | | | | | |
| DATE TEST HOLE PLUGGED | DEPTH OF | WELL | LENGTH OF (| GROUT | DAVIS FORMATION | | MECHANICAL PACK (IF USED) | | MOUNT O FUSED) | F CLEAN | FILL | CASING REM | | | | |
| | | | Bottom | ft. | REACHED Yes | ŀ | Yes, Depth | ft | | Toms or | , | Yes, Diam | eter of R | emaining | Borehole | in. |
| | | ft. | Тор | ft. | □ No | l | No | _ | | Ouble Y | ards | No, Diame | ter of Ca | sing | | in. |
| PLUGGING IN | FORMA | TION | This sect | tion is | required in | add | lition to one o | of the | well, s | oil bo | ring | or test ho | le se | ctions | abov | e.) |
| WELL REMOVED BY EXCAVATION | GROUT IN | STALLAT | ION METHOD | GRO | UT MATERIAL US | SED | NUI CE | MBER OF | SACKS | | N | UMBER OF ALLONS OF W | (ATER | ROUT | HYDRATE | DTO |
| Yes | Gravity Tremie | | | □ Ty | | Chips | Granular | anour (| | | _ ŭ | SED PER SAC | K | Yes | | |
| □ No | Pressur | • | | □ 1 <u>1</u> | | Pellets Other | Slumy LBS | PER SA | CK | | | | - 17 | □ No | | |
| FINISHED SURFACE | | ı | DRILLER NOTE | 8 | | | | | | | | | _ | | | |
| MATERIAL Asphalt | MATERIAL DEPTH | ۱ ا | | | | | | | | | | | | | | |
| Concrete Soil | Concrete | | | | | | | | | | | | | | | |
| Other | | _in. | | | | | | | | | | | | | | |
| I hereby certify th | nat the mo | nitorin | g well herel | n descri | bed was plug | ged | in accordance w | ith the | Depart | ment o | ' Natu | ıral Resourc | сев гес | uirem | ents. | |
| MONITORING WELL | INSTALLATI | ON CON | TRACTOR | | | | | | | | | PERMIT NUMBER | DATE | | | |
| MONITORING WELL | INSTALLATI | ON COM | TRACTOR AR | PRENTICS | E (IF APPLICABLE | E) | | | | | | PERMIT | DATE | | | |
| TOTAL CONTROL HELL | | UN OUN | | - ALIANIO | the way through | -, | | | | | | NUMBER | SAILE . | | | |
| | | | | | | _ | | | | | | | | | | |

Form 33: <u>780-2161</u>

| | | | | | | | | OF | FICE US | E ONLY | | | | |
|-------------------|--|----------|------------------|---------------|-----------------|-------------------------------|---------|---------|------------|--------------|---------|-------------|----------|---|
| | MISSOURI DEPARTMENT OF NATURAL RESOL GEOLOGICAL SURVEY PROGRAM | | | | | | | REF | NO. | | П | DATE REC | CEIVED | |
| Ph CYA | | | | ORING | | | Γ | CR N | 0. | | П | CHECK N | 0. | |
| 7 (3) | CERT | IFICA | TION | REPOR | ₹T | | ı | STAT | E WELL NU | WBER | ヿ | REVENUE | NO. | |
| NOTE: Appr | oval is | requir | ed prio | or to insta | llation of ne | sted well. | ı | ENTE | RED | APPROVED | 寸 | DATE | | ROUTE |
| OWNER AN | SITE | INFOR | MATIC | ON | | | _ | | | | _ | | | |
| PROPERTY OWNE | | | | | | | | | | | PRIMA | ARY PHONE | NUMB | ER WITH AREA CODE |
| | | | | | | | | | | | | | | |
| PROPERTY OWNE | RMAILIN | G ADDRES | 38 | | | | CITY | | | | STATE | E | ZIP C | ODE |
| PHYSICAL ADDRE | SS OF PR | OPERTY | WHERE W | WELL IS LOCAT | ED | | _ | | | | CITY | | | |
| NAME OF SITE, BU | JSINESS, (| OR CLEAN | IUP PROJ | JECT | | | DNRVER | PA PR | OJECT NUM | BER OR REGU | LATOR | Y SITE ID N | UMBER | (IF APPLICABLE) |
| | | | | | | | | | | | | | | |
| PRIMARY CONTRA | ACTOR NA | ME (PLEA | SE PRIN | T) | | | PERMIT | NUN | BER | | Section | on 256.607 | 7(3), RS | Mo, requires all |
| | LOCATION INFORMATION | | | | | | | | | | and re | egulations | promul | comply with all rules ligated pursuant to 6.640 RSMo. |
| LOCATION I | NFORM | IOITAN | N | | | | | | | | | | | |
| Lettude | • | | | | COUNTY | | | | _ | % | _ | % | - | <u> </u> |
| Longitude | rgitude | | | | | | | | Section | Townsh | p | N Re | nge | DE DW |
| MONITORIN | G WEL | LINFO | RMAT | | | BMIT ADDITIONAL A | | | RAMS SHOW | VING WELL CO | NSTRU | CTION DET | ALS IN | CLUDING TYPE AND |
| DEPTH | | EORMA | TION D | ESCRIPTION | THE OTHER | | | | ING FOR (C | HECK ALL THA | T APPL | Y) | | |
| FROM | то | | | | Standard Ne | sted Well | □ E | ixplosi | ves | ☐ Metals | | ☐ Pesticid | es/Herbi | cides |
| | | | | | Soil Vapor P | obe | □ P | etrole | um | Redionucli | ies | SVOCS | | vocs |
| | | | | | WELL NUMBER | | VAR | IANC | E NUMBER (| IF ISSUED) | | WELL CO | MPLETK | ON DATE |
| | | | | | | | | | | | | | | |
| | | | | | DRILLER NOTE | 8 | | | | | | | | |
| | | | | | l | | | | | | | | | |
| | | | | | l | | | | | | | | | |
| | | | | | l | | | | | | | | | |
| | | □ *Borio | Log Atte | rhad | l | | | | | | | | | |
| TOTAL DEPTH OF | WELL | STATICY | | | 1 | | | | | | | | | |
| | | | | | | | | | | | | | | |
| SURFACE C | OMPLE | ETION | INFOR | RMATION | | | | | | | | | | |
| Above Ground | | TH OF SU | RFACE | DIAMETE | R OF SURFACE | DEPTH AND DIA COMPLETION W | METER O | OF TH | E HOLE SUF | RFACE SURFA | | MPLETION | | AL |
| Flush Mount | | | | | in. | | | | in. | ☐ Pie | | LI AUIT | anum. | |
| WEEP HOLE | | | - | | VENT | ED CAP | ** | | CKING CAP | | | MPLETION | | |
| Yes No If | no, explain | | | | Joy | n No | | | Yes No | ☐ Cor | crete | Other_ | | |
| RISER PIPE | TUBE | #1 DET | | | | Lamber | | | | | | | | |
| DIAMETER | LENGTH | | MATERIA Rinal | L Thermo | slautic (PAY) | WEIGHT, SDR# | OR SCH | | | NNECTION MA | DE BY | GLUE | DIAMET | ER OF BOREHOLE |
| in. | l | ft. | Other | | (- ¥0) | 1 | | | | No | | | | in. |
| WELL SCRE | EN #1 | DETAI | L | | | • | | | | | | | | |
| DIAMETER | LENGTH | | MATERIA | UL. | | | | | | | | | DIAMET | TER OF BOREHOLE |
| in. | l | ft. | Steel | Thermog | elestic (PVC) | Other | | | | | | | | in. |
| PRIMARY FI | LTER F | ACK | GROU | T SEAL #1 | DETAIL | | | | | | | | | |
| LENGTH OF FILTE | R PACK | | | DEPTH TO TO | P OF PRIMARY | BENTONITE SEAL | | | | GROUT | MATE | RIAL | | |
| From | ft. To _ | | ft. | | ft. | Fromf | t. To | _ | - ft. | □ chi | ps. | Granular | | Pelleta Slurry |
| SECONDARY FILT | | USED | | ANNUL | AR SEAL USED | | | | T MATERIAL | | | | | |
| Yes No If | Yes: Lengt | | n. | ☐ Yes | □ No If Yes: Le | ngtht | . | Chi | ps 🗆 Cm | enular Pel | ets | Slurry | | ement Slurry |
| MO 780-2169 (01-1 | | | _ | | | | | | | | | | | |

Form 34: <u>780-2169</u>

| <u>∩</u> ≈ | | | JRI DEPARTI | | | OURCES | FOR OFFICE | E USE OF | NLY | DATE RECEIV | ED | | |
|----------------------------|-----------------------|----------------------|--|--|----------------------------------|-----------------|----------------|--------------------------------|--|------------------------------------|-----------|-----------------------|---------|
| λ 🕸 | = | | GICAL SURVI | | | | REF NO. | | | CR NO | | | |
| T | | | NIZATION INFORMA | | ORT AND |) | STATE CERT NO | D. | REV | ENUE NO. | CHE | CK NO. | |
| | | | IIII ORIIIA | | | | ROUTE | , | APPROVED | DATE | | ENTERED |) |
| INFORM/ | ATION | I SUP | PLIED BY WE | ELL OR PUM | P INSTALLA | ATION CO | NTRACTOR | | | | | | |
| ORGANIZATIO | | | | | _ | | E CONTACT NAME | | PRIMARY PH | ONE NUMBER V | VITH AREA | A CODE | |
| | | | | | | | | | | | | | |
| | | | NUMBER AND ADD | | | CITY | | | STATE | | ZIF | | |
| PHYSICAL AD | DRESS | OF WEL | L (IF DIFFERENT TI | HAN ABOVE - NO P | O BOX) | CITY | | | VARIANCE N | JMBER (IF ISSU | | YES | |
| | | | MATION AND | | - | | | | | | | JFY) | |
| ☐ This orga ☐ This well | anizatio will no | n's purp et serve | ose and function an average of 10 | is charitable and/ O people or more | or benevolent over 60 days of | the year | ☐ This w | veli will not veli will sen | t serve a sch ve only build | ool or day care ings owned by | the orga | nization | |
| at any tim | e this | well r | e above condi no longer mee atural Resourc | ts these requi | rements, I or | another o | | | | | | | |
| OWNER OR F | ACILITY | DESIGN | NEE SIGNATURE RE | QUIRED | | | | | | | DATE | | |
| CASING | INFO | RMAT | TON | | | | | | | · · | | | |
| LENGTH | ft. | OUTS | SDE DIAMETER in. | WEIGHT | DRILL HOLE b. | DIAMETER in. | MATERIAL PI | lestic eriance requi | | /E SHOE USED Yes No | | Yes No | |
| CASING | GROL | JT INF | FORMATION | | ' | | , | | , | | _ ′ | | |
| | | OUTED | GROUT TYPE (CH | IOOSE ONE) | Number of Sa | erin Haari | | METHOD | OF INSTALLA | TION | | KILLING SUSPE | NDED |
| Yes | | | CEMENT Type I | BENTONITE High Solid Stur | | k | | | e ure through ce ure through the | | | Yes | Hrs |
| LINER IN | FORM | MATIC | N | | or coast rain | | | | | | | | |
| LENGTH | | | OUTSIDE DIAMET | TER DE | PTH TO TOP OF L | JNER | LINER MATERIA | L | | OSE ONLY ON | | | |
| | | | | in. | | | Steel Pleado | | | ack formation at undesirable co | | nt rust | |
| LINER G | ROUT | INFO | RMATION | m. | | | _ | | ,— | | | | |
| POSITION OF | | GROUT T | | (verience required) | Number of Sack | n I had | | METHOD | OF GROUT IN | | DEPTH P | ACKERS SET | |
| Full Lengt Bottom | | Type | | Granular Slurry | LBS per Sack | | | Gravity Open i | | splacement emie | 1 | 1 | / n. |
| DEF | PTH | | FORMATION D | DESCRIPTION | LOCATION OF V | WELL OR PUN | ₽. | | | COUNTY | | | |
| FROM | TO | 0 | | | Latitude | : | <u> </u> | | _ | | | | |
| | | | | | Longitude | <u> </u> | <u> </u> | | | | | | |
| | | | | | LEGAL LOCATIO | | | | | DRILL AREA (for office use or | | NDONED WELL Yes No | ON SITE |
| | | | | | Section | % Township | | | O E O W | | | THE WELL PL | UGGED |
| | | | | | WELL COMPLET | TION DATE | | | PUMP IN | IFORMATIO | N | | |
| | | | | | WELL YIELD | | | gpm | PUMP INST | ALLATION DAT | E | | |
| | | | | | STATIC WATER | LEVEL | | n. | DEPTH PU | MP SET | | | |
| | | | | | DEPTH TO FIRE | ST GROUNDW | ATER | ft. | PUMP RAT | E | | | gpm |
| | | | | | I hereby ce | rtify the w | ell/pump info | rmation (| described | herein is tr | ue and | accurate | |
| | | | | | PRIMARY CONT | TRACTOR SIG | NATURE | | PERMIT # | | DA | TE | |
| | | | | | WELL DRILLER | SIGNATURE | | | PERMIT # | | DA | TE | |
| | | | | | PUMP INSTALL | ER SIGNATUR | RE | | PERMIT # | | DA | TE | |
| | | | | | WELL DRILLER | APPRENTICE | SIGNATURE | | PERMIT # | | DA | TE | |

SEND COMPLETED FORM ALONG WITH \$50 CERTIFICATION FEE TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI DEOLOGICAL SURVEY WELL INSTALLATION SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-388-2165 FAX: 573-388-2317 EMAIL: welldrillets@dnr.mo.gov

TOTAL DEPTH MO 780-2185 (01-18)

Form 35: <u>780-2185</u>

| | ICCULIDI DEI | | ENTAL | MATHERAL | RESOURCES | FOR OFFI | ac mer | E ONLY | | | |
|------------------------------|-------------------|----------|---|---|---|---------------------------------|--|--|--|---|---|
| | EOLOGICAL | | | | RESOURCES | FOR OFFICE | JE U5 | | DATE REC | en en | |
| A A P | ILOT HOLI | E FOR | A PUB | LIC WA | | MEP. NO. | | | SAIR REC | ZIVED. | |
| | UPPLY WE | | | | | STATE CERT. N | Ю. | | CR NO. | | |
| NOTE: Pilot hol | | et dome | stic stand | lards if no | t completed as | | | | | | |
| a public well wit ROUTE | APPRO | VED DA | ATE | | ENTERED | CHECK NO. | | | REVENUE | NO. | |
| / / | | | | | | | | | | | |
| PUBLIC WATE | R SUPPLY A | ND SIT | TE INFOR | RMATION | (Contact the ap | propriate D | NR Re | gional Office | for ins | tructio | ons regarding |
| public well pro | jects before | drilling | a) | | • | • | | | | | |
| PUBLIC WATER SUPP | PLY NAME | | | | | | PUBLIC | WATER SUPPLY ID | (IF ISSUE | D) | WELL NUMBER |
| | | | | | | | MO | | | | |
| CONTACT PERSON | | | | | | | TELEP | HONE NUMBER WIT | H AREA CO | ODE | |
| PROPERTY OWNER | NAME | | PROPERTY | OWNER MAIL | NG ADDRESS | | CITY | | 9 | STATE | ZIP |
| | | | | | | | | | | | |
| PHYSICAL ADDRESS | OF WELL SITE | | | | | | СПУ | | 8 | TATE | ZIP |
| TYPE OF FUTURE PU | DI IO WATER OF IN | NVWS: | AE VALCHAS | | | | I | | Į | (ADIANC) | E NUMBER (IF ISSUED) |
| Community well | | | (IF KNOWN) on-communi | Ity well | ☐ Transient non-c | community well | | | ľ | HINANCE | E NUMBER (IF ISSUED) |
| CASING AND | | | | | | | | | | | |
| LENGTH | OUTSIDE DIAM | METER | WEIGHT | (LB), SOR#, S | CH# BOREHOLE DIA | WETER | MATER | IAL | 0 | RIVE SH | OE USED |
| ft. | | in. | 1 | | | in. | ☐ Stee | el Plastic | | Yes | ☐ No |
| SURFACE SI CASING USED LE | JRFACE CASING | SURFACE | | SURFACE CA | SING SCREEN LENG | | ATED 8 | CREEN TYPE/SLOT | SIZE/PAC | KER DEF | тн |
| Yes No | t. | | in. | Yes | | | ft. | | | | |
| CASING GROU | JT INFORMA | TION | | | | | | | | | |
| POSITION OF SEAL | TYPE (CHOOS | | | NUMBE | ER OF SACKS USED | | | D OF INSTALLATIO | | E ONE) | DRILLING SUSPENDED |
| Full length Top | CEMENT Type I | BENTON | ITE B Sturry | | R SACK | | | ssure through casing ssure through tremie | | | No No |
| Bottom | Type III | Pellet | | | BIC YARDS | | Tre | | | | Yes Hrs |
| DEPTH | DESC | RIPTION | | | | | | | | | |
| | 1 | MIPTION | | | WELL OR PUMP | | С | OUNTY | | | ONED WELL ON SITE |
| FROM TO | | MIPTION | | AT | WELL OR PUMP | : — | -: l° | COUNTY | | ☐ Yes | No HE WELL PLUGGED |
| FROM TO | | attrion | | AT | _: | : <u> </u> | | FILL AREA (OFFICE | EUSE | WASTH | No No |
| FROM TO | | JAPTION | | ONG% | × | × | | | EUSE | WASTH | No HE WELL PLUGGED |
| FROM TO | | Jarion | L L 8 | ONG% | % TWP N RN | E | | ORILL AREA (OFFICE ONLY) | | WASTH Yes | NO N |
| FROM TO | | Jarios | L L 8 | ONG% | × | E | _ w | ORILL AREA (OFFICE ONLY) | MATION | WASTH Yes | No HE WELL PLUGGED |
| FROM TO | | Jarios | | ONG % EC | % TWP N RN | MATION | _ w | PUMP INFORI | MATION | WASTH Yes | NO N |
| FROM TO | | Jarion | | ONG % EC | TWPN RNG | MATION F | DOO PREET PR | PUMP INFORI | MATION | WASTH Yes | |
| FROM TO | | Jarion | 8 0 0 | SROUND! DEPTH TO FIRE WELL YIELD | TWPN RNC WATER INFORM | MATION FE | DO D | PUMP INFORI ecord or on pump | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarion | 8 0 0 | AT ONG X EC X EC PTH TO FIR | TWPN RNC WATER INFORM | MATION FE | DO D | PUMP INFORI ecord or on pump rump sate | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarion | 8 0 0 | SROUND! DEPTH TO FIRE WELL YIELD | TWPN RNC WATER INFORM | MATION FE | DO D | PUMP INFORI ecord or on pump rump sate | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarion | 8 0 0 | SROUND! DEPTH TO FIRE WELL YIELD | TWPN RNC WATER INFORM | MATION FE | DO D | PUMP INFORI ecord or on pump rump sate | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarion | 8 0 0 | SROUND! DEPTH TO FIRE WELL YIELD | TWPN RNC WATER INFORM | MATION FE | DO D | PUMP INFORI ecord or on pump rump sate | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarion | 8 0 0 | SROUND! DEPTH TO FIRE WELL YIELD | TWPN RNC WATER INFORM | MATION FE | DO D | PUMP INFORI ecord or on pump rump sate | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarion | 8 0 0 | SROUND! DEPTH TO FIRE WELL YIELD | TWPN RNC WATER INFORM | MATION FE | DO D | PUMP INFORI ecord or on pump rump sate | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarrion | L S | AT ONG | TWPN RNC WATER INFORM | MATION FI | PM PEET P | PUMP INFORI ECORD OF ON PUMP PUMP RATE PUMP SET DEPTH | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarrion | L S C C C C C C C C C | AT ONG | TWP N RM WATER INFORM ST GROUNDWATER R LEVEL | MATION FI G mation describes | PM PEET P | PUMP INFORI ECORD OF ON PUMP PUMP RATE PUMP SET DEPTH | MATION card) | WASTH Yes | B No |
| FROM TO | | Jarrion | L S S C C | AT ONG KEC KEC KEC KEC KEC KEC KEC KE | WATER INFORM ST GROUNDWATER R LEVEL Ty the wellipump inform TRACTOR SIGNATURE | MATION FI G mation describes | PM PEET P | PUMP INFORI ecord or on pump rump RATE rump SET DEPTH rump INSTALLATION | MATION card) | Yes Was Tri | B No |
| FROM TO | | Jarrion | L S S C C | AT ONG KEC KEC KEC KEC KEC KEC KEC KE | TWP N RNO WATER INFORM ST GROUNDWATER R LEVEL | MATION FI G mation describes | PM PEET P | PUMP INFORI ecord or on pump rump RATE rump SET DEPTH rump INSTALLATION | MATION card) | Yes The Was The Was The Well Co. | B No |
| DEPTH TO BEDROCK | | n. | L S S C C | AT ONG KEC KEC KEC KEC KEC KEC KEC KE | WATER INFORM ST GROUNDWATER R LEVEL Ty the wellipump inform TRACTOR SIGNATURE | MATION FI G mation describes | PM PEET P | PUMP INFORI ecord or on pump rump RATE rump SET DEPTH rump INSTALLATION | MATION card) N DATE | Yes Was Tri | B No |
| | | | L L S S C C S S C C S S C C S S C C S S C C S S C C S S C C S S C C S S C C S S C C S S C C S C S C C S C C S C C S C C S C C C S C C C S C | AT ONG KEC KEC KEC KEC KEC KEC KEC KE | WATER INFORM ST GROUNDWATER R LEVEL Ty the wellipump information signature R SIGNATURE | MATION FI G mation describes | PM PEET P | PUMP INFORI PCOMP OF PORT OF PUMP PRATE PUMP SET DEPTH PUMP INSTALLATION IS true and accura PERMIT NU | MATION card) N DATE THE IMBER JMBER | Very Very Very Very Very Very Very Very | B No |

Form 36: <u>780-2201</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS NOTICE TO CANCEL WELL PERMIT

| WELL PERMIT INFORMATION | | |
|---|---|---|
| NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL THAT DI WELLS IN MISSOURI | RILLS, MAINTAINS, OPERATES, OR CONTROLS OIL | AND GAS OPERATOR LICENSE NUMBER |
| DOOD INTONIANT A FACE OF CARPETOE INSTANCE. | | COUNTY |
| PRODUCTION UNIT (LEASE OR SURFACE UNIT NAME) | | COUNTY |
| API NUMBER | WELL NUMBER | PERMIT NUMBER |
| | | |
| STATE REASON FOR WELL PERMIT CANCELLATION | | · |
| | | |
| CERTIFICATION | | |
| I, the undersigned, certify that: | | |
| I am authorized to act as an agent for this | s company. | |
| _ | | d by the Missouri Code of State Regulations Oil and Gas |
| The information on this form has been re- | viewed by me and is true, correct and corr | plete to the best of my knowledge. |
| PRINT NAME | TITLE | COMPANY |
| PRIMARY TELEPHONE NUMBER WITH AREA CODE | EMAIL ADDRESS | |
| SIGNATURE | | DATE |

TED FORM TO: DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES PO BOX 250, ROLLA, MO 85402-0250 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: <u>cliansquas@int.mo.gox</u>

Form 37: <u>780-2227</u>

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MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS NON-COMMERCIAL OPERATOR'S LICENSE APPLICATION

| FOR OFFICE USE ONLY | | | | | | |
|------------------------|----------------|--|--|--|--|--|
| PROCESSED BY | DATE RECEIVED | | | | | |
| CHECK NUMBER | CHECK AMOUNT | | | | | |
| LICENSED CALENDAR YEAR | LICENSE NUMBER | | | | | |

| APPLICAT | ION TYPE | | | | | | | |
|---|---------------------------------|----------------------------------|-------------------------------------|-----------------------|----------------|-------------|---------------------------------------|--|
| New Renewal Information Update Only (Fee not required) | | | | | | | | |
| WELL OW | NER INFORMATION | | | | | | | |
| NAME OF COMP | ANY, ORGANIZATION, OR INDIVIDUA | L THAT DRILLS, MAINTAINS, OPERAT | TES, OR CON | TROLS OIL AND GAS WE | LS IN MISSOURI | | OR LICENSE NUMBER (IF L OR UPDATE) | |
| MAILING ADDRE | CITY | | STATE | ZIP | | | | |
| PHYSICAL ADDR | RESS (IF DIFFERENT THAN ABOVE) | PRIMARY PHONE NUMB | PRIMARY PHONE NUMBER WITH AREA CODE | | | | | |
| EMAIL ADDRESS | 8 | | | IF WELL OWNERSHIP CO | HANGE OCCURRE | ED, GIVE PR | EVIOUS NAME | |
| ADDITION | AL CONTACT INFORMAT | ION | | • | | | | |
| Name | | Title | Primary Area Co | Phone Number wi | th Email Add | iress | | |
| PRIMARY | | | | EXT. | | | | |
| SECONDARY | | | | EXT. | | | | |
| OTHER | | | | EXT. | | | | |
| METHOD C | F PAYMENT | | • | | ' | | | |
| Check or | Money Order (Please enclose | check, payable to Departmen | t of Natura | al Resources, with su | bmitted form.) | | AMOUNT DUE | |
| ☐ Credit Ca | rd (Transaction fee applies. P | lease attach contact informatio | n of perso | n authorized to make | transaction.) | | | |
| Automate | d Clearing House (Please atta | ach contact information of pers | on authori | zed to make transact | ion.) | | \$50.00 | |
| CERTIFICA | ATION | | | | | | | |
| I, the undersigned, certify that: I am authorized to make this report. The facts stated herein are true, correct and complete to the best of my knowledge. I understand that after any change occurs as to facts stated in this report as submitted and filed, a supplementary report shall be filed with the state geologist with respect to such change within thirty (30) calendar days after the effective date of change. I have read and agree to comply with the statutes, rules and provisions pursuant to Chapter 259, RSMo, and the Missouri Code of State Regulations Oil and Gas Council Rules 10 CSR 50. | | | | | | | | |
| PRINT NAME | | | PRINT C | OMPANY/ORGANIZATION | NAME | | | |
| SIGNATURE | | | • | | DAT | E | | |
| FOR OFFIC | E USE ONLY | | | | , | | | |
| APPROVED BY | | | | | DAT | E | | |

SEND COMPLETED FORM ALONG WITH \$50 LICENSE FEE BY JANUARY 1 TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 250, ROLLA, MO 65402 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: clandqas@dnr.mo.gov

Form 38: <u>780-2598</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS TRANSFER OF WELL(S) AND/OR

TRANSFER OF INJECTION PERMIT(S)

| TRANSFEROR | | | | | | | | | |
|--|-----------------------|-----------------|------------------|-------------|---|--|-------------------|--------------|-----------------------|
| NAME OF COMPANY, O WELLS IN MISSOURI | ORGANIZATION, OR INDI | MDUAL THAT D | RILLS, MAINTAINS | OPERATE | S, OR CONT | ROLS OIL AND GAS | EMAIL ADDRESS | | |
| MAILING ADDRESS | | | | | | CITY | | STATE | ZIP |
| PHYSICAL ADDRESS (| IF DIFFERENT THAN ABO | OVE) | | | PRIMARY PHONE NUMBER WITH AREA CODE OPERATOR LICENSE NUMBER | | | | LICENSE NUMBER |
| CONTACT NAME | | | TITLE | | PRIMARY P AREA CODE | IMARY PHONE NUMBER WITH EMAIL ADDRESS IEA CODE | | | |
| TRANSFEREE INFORMATION | | | | | | | | | |
| NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL THAT DRILLS, MAINTAINS, OPERATES, OR CONTROLS OIL AND GAS EMAIL ADDRESS WELLS IN MISSOURI | | | | | | | | | |
| MAILING ADDRESS | | | | | | CITY | | STATE | ZIP |
| PHYSICAL ADDRESS (| IF DIFFERENT THAN ABO | OVE) | | | PRIMARY P | HONE NUMBER WITH | AREA CODE | OPERATOR | LICENSE NUMBER |
| CONTACT NAME | | | TITLE | | PRIMARY P AREA CODE | HONE NUMBER WITH | EMAIL ADDRESS | | |
| WELL TRANSF | ER INFORMATIO | ON (ATTAC | H A LIST IN | THIS FO | RMAT II | F NECESSARY) | | | |
| Well transfer requi | rements and post w | vell transfer r | equirements on | back of t | form. | | | | |
| REQUESTED DATE OF | | "WELL STATU | 8 CODE: AC (ACT) | VE), UC (UN | DER CONST | ODUCTION), ID (INJECTION), SI (SHUT- | N), AB (ABANDONED |), O (OTHER) | |
| API Number | Well Number | Well Type* | Well Status** | Well Lat | itude | Well Longitude | Production | Unit (lease | or surface unit name) |
| | | | | | | | | | |
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SEND COMPLETED FORM ALONG WITH REQUESTED INFORMATION TO: MISSOURI DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 250, ROLLA, MO 85402 PHONE: 573-368-2100 FAX: 573-368-2111 EMAIL: <u>cilandqua@ditr.mo.gox</u> MO 780-2634 (04-18)

Form 39: <u>780-2634</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM

OIL AND GAS MECHANICAL INTEGRITY TEST REPORT

| WELL OWNER INFORMA | TION | | | | | | | | |
|--|--|-----------------|---------------------------|----------------------|-----------------|-------------------------------------|--------------|--|--|
| NAME OF COMPANY, ORGANIZATION | | | | | OPE | ERATOR LICENSE NUMBER | t | | |
| | | | | | | | | | |
| WELL INFORMATION | | | | | | | | | |
| LEASE NAME | | API NUMBER | t | | WELL NUMBER | t | | | |
| TEST DATE | | MAXIMUM AI | PPROVED WELL INJECTION | N PRESSURE | | | | | |
| | TEST INFORMATION (SEE BACK OF FORM FOR REGULATIONS REGARDING MECHANICAL INTEGRITY TESTING) | | | | | | | | |
| TEST INFORMATION (SE TYPE OF TEST (CHOOSE ONE) | E BACK OF FORM | FOR REGU | LATIONS REGAR | DING MECHA | NICAL INT | EGRITY TESTING) | | | |
| | Radioactive Tracer Su | irvey Te | emperature Survey | ☐ Other | | | | | |
| WELL CONSTRUCTION TYPE AND CO | | | CK OF FORM FOR TEST P | ROCEDURES) | | | | | |
| ☐ Without tubing and packer Procedure 1A TEST RESULTS | ☐ With tubing Procedure 18 | g and packer | With tubir Procedure 1 | ng and no packe C | r 📄 | With tubing and no pa ocedure 1D | icker | | |
| Fluid used for test (water, nitro | 000 | ed ale edo \ | | | | | | | |
| , | | | | | | | | | |
| Depth to top of perforation | | Packers | ег оертп | | | | | | |
| Fluid depression Yes | | | | | | | | | |
| Calculate the required fluid de on the back of this form. | pression pressure usir | ng the equation | n below. The minimun | n pressure requi | red for this w | ell type and constructi | on is listed | | |
| (depth to top perforation | feet) - | (depth to fluid | d level | feet) X (0. | 433) psi/ft = _ | | psi | | |
| | Run #1 | Run | 1#2 | Run #3 | | Run #4 | | | |
| Start Time | | | | | | | | | |
| End Time | | | | | | | | | |
| Length of Test | | | | | | | | | |
| Initial Pressure (PSI) | | | | | | | | | |
| Ending Pressure (PSI) | | | | | | | | | |
| Pressure Change | | | | | | | | | |
| COMMENTS | | | | | | • | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| CERTIFICATION | | | | | | | | | |
| I, the undersigned, certify that | | | | | | | | | |
| The Information sub This test was condu | | | | ations Oil and G | as Council R | ule 10 CSR 50-2.055. | | | |
| PRINT NAME | 1 | TILE | | COMPANY | | | | | |
| PRIMARY PHONE NUMBER WITH AREA CODE EMAIL ADDRESS | | | | | | | | | |
| SIGNATURE | | | | | t | DATE | | | |
| FOR OFFICE USE ONLY | | | | | | | | | |
| TEST RESULTS COMMEN | TS | | | | | | | | |
| Pass Fall | | | | | | | | | |
| Yes No APPROVED BY | | | | | t | DATE | | | |
| | | | | | | | | | |

SEND COMPLETED FORM MYTHIN 30 DAYS OF TEST DATE TO: MISSOURI DEPARTMENT OF NATURAL RESOURC MISSOURI GEOLOGICAL SURVEY, GEOLOGIC RESOURCES SECTION, PO BOX 256, ROLLA, MO 65402-0250 PHONE: 573-384-2443 FAX: 573-384-2111 EMAIL: Olimidus Both: Mo. Doy.

Form 40: <u>780-2635</u>



MISSOURI DEPARTMENT OF NATURAL RESOURCES GEOLOGICAL SURVEY PROGRAM OIL AND GAS ANNUAL BONDING REPORT

| OBLIGOR (WELL OWNER/OPERATOR) INFORMATION | | | | | | | | | |
|--|---------------------------------------|------------------|----------------------|---|-------------------|-------------|------------|----------------|--|
| NAME OF COMPANY, ORGANIZA | ITION, OR INDIVIDUA | L THAT DRILLS, N | MAINTAINS, OPERATES | OR CONTROLS OIL AND G | AS WELLS IN MISSO | OURI OPER | NATOR LICE | NSE NUMBER | |
| | | | | | | | | | |
| ISSUING FINANCIAL INSTITUTION INFORMATION (TO BE COMPLETED BY THE INSTITUTION ISSUING THE FINANCIAL ASSURANCE INSTRUMENT (FAI)) | | | | | | | | | |
| FINANCIAL INSTITUTION NAME | | | FINANCIAL INSTITUTIO | ON MAILING ADDRESS | CITY | | STATE | ZIP CODE | |
| | | | | | | | | | |
| CONTACT NAME | | TITLE | | PRIMARY PHONE NUMBER AREA CODE | WITH EMAIL ADD | RESS | | | |
| FAI INFORMATION (TO BE COMPLETED BY THE INSTITUTION ISSUING THE FAI) | | | | | | | | | |
| FAI TYPE: Certificate o | | | | | | OC) | | | |
| FAI TYPE (SELECT ONE) | FAI NUMBER | | , , | FAI AMOUNT | • | DATE ISSUED |) | | |
| □CD □SB □LOC | | | | | | | | | |
| FAI TYPE (SELECT ONE) | FAI NUMBER | | | FAI AMOUNT | | DATE ISSUED |) | | |
| CD SB LOC | | | | | | | | | |
| FAI TYPE (SELECT ONE) | FAI NUMBER | | | FAI AMOUNT | | DATE ISSUED |) | | |
| CD SB LOC | | | | | | | | | |
| FAI TYPE (SELECT ONE) | FAI NUMBER | | | FAI AMOUNT | | DATE ISSUED | • | | |
| CD SB LOC | | | | | | | | | |
| FAI TYPE (SELECT ONE) | FAI NUMBER | | | FAI AMOUNT | | DATE ISSUED | • | | |
| CD SB LOC | FAI NUMBER | | | FAI AMOUNT | | DATE ISSUED | | | |
| | PAI NUMBER | | | PAI AMOUNT | | DATE ISSUED | , | | |
| CD SB LOC | FAI NUMBER | | | FAI AMOUNT | | DATE ISSUED | | | |
| □CD □SB □LOC | N HOMBER | | | A AMOUNT | | DATE ISSUES | | | |
| FINANCIAL INSTITUTI | ON'S FALANN | IUAI CERTI | IFICATION | | | <u> </u> | | | |
| I, the undersigned, certify t | | | | | | | | | |
| I am authorized | to make this repo | | | | | | | | |
| | | | | effect, and will remain i ri and in accordance w | | | | | |
| Gas Council Rui | les 10 CSR 50-2. | .020. | | | | | - | | |
| | surance instrume uncii Rules 10 CS | | e released to the o | bligor without first com | plying with the I | Vissouri Co | de of Stai | te Regulations | |
| AUTHORIZED AGENT SIGNATUR | | | AUTHORIZED AGENT | NAME (PRINT) | | TITLE | | | |
| | | | | | | | | | |
| NOTARY PUBLIC EMBOSSER OF | RUBBER STAMP | SUBSCRIBED AN | ND SWORN BEFORE ME | E, ON THIS | | | | | |
| SEAL | | | | de | y of | in the y | | | |
| | | STATE | | COUNTY | | MY COMMISS | ION EXPIR | ES | |
| | | | | | | | | | |
| | NOTARY PUBLIC SIGNATURE | | | | | | | | |
| NOTARY PUBLIC NAME (PRINT) | | | | | | | | | |
| OBLIGOR'S FAI ANNUAL CERTIFICATION | | | | | | | | | |
| | | AHUN | | | | | | | |
| i, the undersigned, certify that: I am authorized to act as the obligor's agent for the submission of this annual bonding report. | | | | | | | | | |
| The FAI and financial institution information on this form is accurate. | | | | | | | | | |
| I agree to ensure this FAI remains in full force and effect until a letter of release is issued from the office of the Missouri state geologist per the provisions of Chapter 259, RSMo, and the Missouri Code of State Regulations Oil and Gas Council Rules 10 CSR 50. | | | | | | | | | |
| OBLIGOR SIGNATURE | | - | R NAME (PRINT) | - | TLE | | | XTE. | |
| | | | | | | | | | |
| MO 780-2699 (3-18) | SEND C | OMPLETED FORM | PRIOR TO JANUARY | TO: MISSOURI DEPARTM | ENT OF NATURAL I | RESOURCES, | | | |

SEND COMPLETED FORM PRIOR TO JANUARY 31 TO: MISSOURG DEPARTMENT OF NATURAL RESOURCES, MISSOURI GEOLOGICAL SURVEY, GEOLOGICAL SURVEY, PROGRAM, PO BOX 258, ROLLA MO 68462 PHONE: 873-368-2109 FAX: 573-368-2111 EMAIL: <u>risindosa@min.mo.pox</u>

Form 41: <u>780-2699</u>

O. MDNR Maps

MISSOURI DEPARTMENT OF NATURAL RESOURCES Division of Environmental Quality Regional Offices

Kansas City Area

Kansas City Regional Office 500 NE Colbern Rd. Lee's Summit, MO 64086-4710 816-251-0700 FAX: 816-622-7044

Southwest Area

 Southwest Regional Office 2040 W. Woodland Springfield, MO 65807-5912 417-891-4300 FAX: 417-891-4399

St. Louis Area

\$t. Louis Regional Office
 7545 S. Lindbergh, Ste 210
 St. Louis, MO 63125
 314-416-2960 FAX: 314-416-2970

Southeast Area

Southeast Regional Office 2155 North Westwood Blvd. Poplar Bluff, MO 63901 573-840-9750 FAX: 573-840-9754

Northeast Area

Northeast Regional Office 1709 Prospect Drive Macon, MO 63552-2602 660-385-8000 FAX: 660-385-8090

Central Area

(★) Department Central Offices P.O. Box 176 Jefferson City, MO 65102-0176 573-751-3443

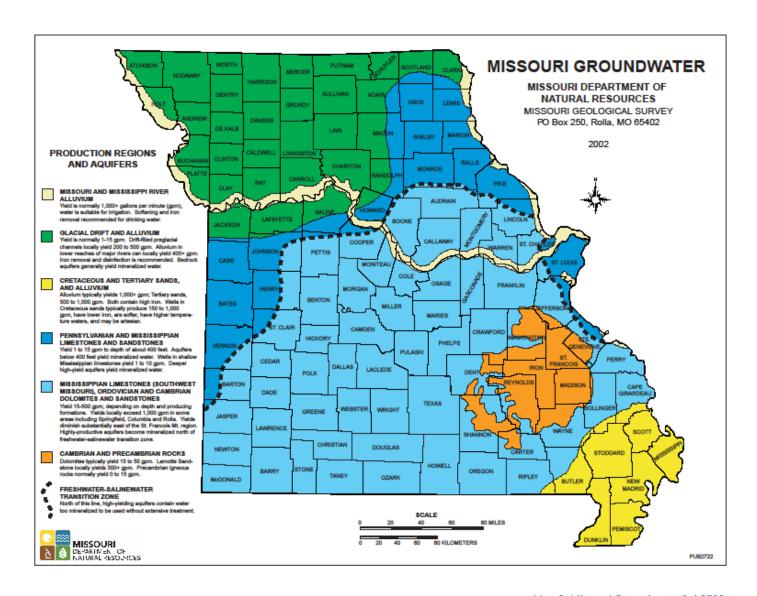
> Central Field Operations P.O. Box 176 Jefferson City, MO 65102-0176 573-522-3322 FAX: 573-522-3522



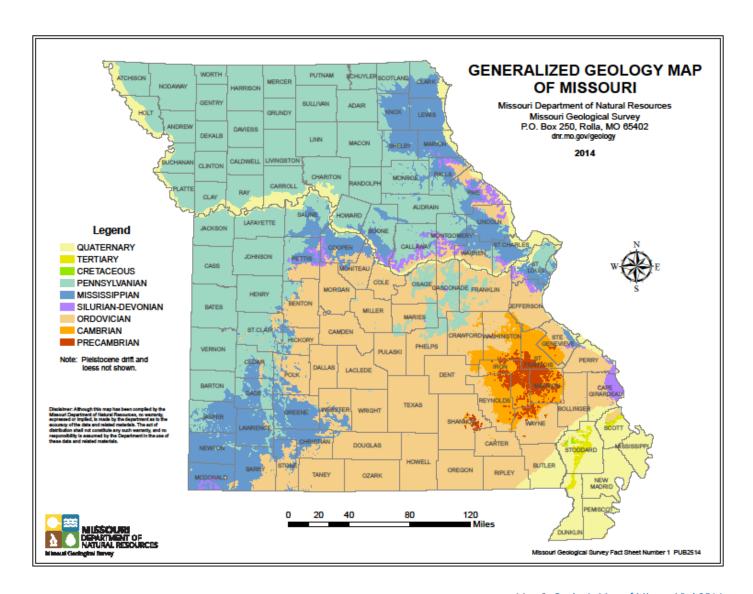
For more information on the department visit dnr.mo.gov or call 800-361-4827

6/25/19

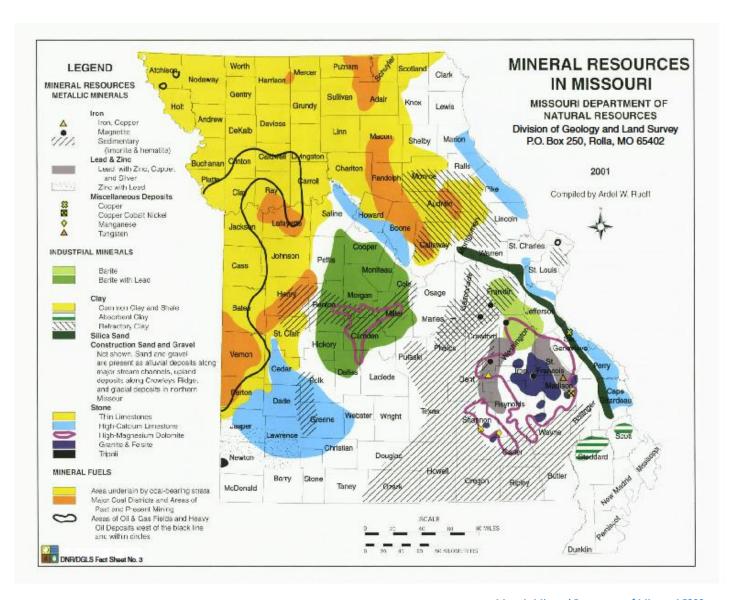
Map 1: MDNR Regional Offices



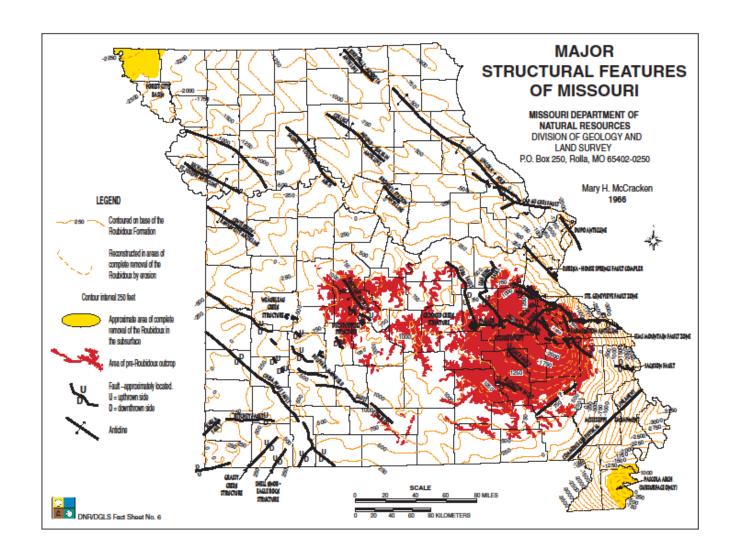
Map 2: <u>Missouri Groundwater Pub2722</u>



Map 3: Geologic Map of Missouri Pub2514



Map 4: Mineral Resources of Missouri FS03



Map 5: Major Structural Features of Missouri FS06

P. MDNR Report Data Sources: Tables and Figures

Tables and figures generated from MDNR submitted 7520 form data and from files available at https://dnr.mo.gov/